

for **AMIGA** **USERS!**

# info



**TOP TEN GAMES**

**\*\*\* OF 1991 \*\*\***

Scala

ShowMaker

Blitz BASIC

DCTV Paint

ToasterPaint

Superbase 4.0

Distant Suns 4.0

SupraModem 9600

Bars & Pipes Professional

**PLUS: FREE info tech support!**

**-EXCLUSIVE-**

**First Look at Toaster  
2.0 Software**

**ADPro 2.0 with JPEG**

#45

December 1991

U.S.A. \$3.95

Canada \$4.50

DISPLAY UNTIL JAN. 24







## AMNIOS

**Alive and Killing!**

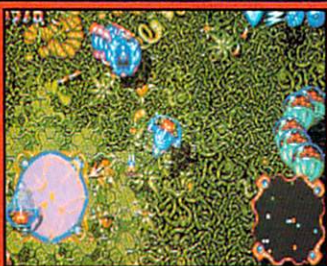
"Put simply, AMNIOS is the best shoot-'em-up that has been released for a long time".  
— Amiga Action - 93%

Penetrate the living hell that is **Amnios**. Counter your comparatively diminutive ship against the merciless might of **ten living, breathing planets** in an audacious endeavour to rescue imprisoned members of your own persuasion.

Pick up indigenous DNA and utilise it to fabricate enhanced weaponry to abet your pestilential quest.

**AW, forget the Bull! Just get in there and save the World!**

Screen Shots from the Amiga Version



## BARBARIAN II

Necron's back in town and he wants revenge. Only you – in the guise of Hegor the Barbarian – have the courage, strength and stupidity to face the challenge:

It's time once again to don your dented helmet, tie your sweaty breechcloth, sharpen your rusting sword and move your big feet in the direction of danger.

Forests, caves, dungeons, castles and temples await your barbaric exploration, each is infested with deadly inhabitants and devious traps ready to terminate your lowbrow activities.

Featuring 2,000 frames of sprite animation, 32 colours on-screen, parallax scrolling, 6 levels of continuous arcade/adventure action, over 1 megabyte of fully-animated sprites, 50 divergent enemies, Magic & Health Potions to help you on your quest and a plethora of unique weapons to find and use. **Barbarian II** is:

**The ultimate in loincloth entertainment**

Screen Shots from the Amiga version



## PSYGNOSIS

29 Saint Mary's Court,  
Brookline, MA 02146  
Telephone: (617) 731-3553  
Fax: (617) 731-8379



# ORK



## ORK

Beamed down to the planet Ixion from the Legion Ship, Cisskei, aspiring Captain Ku-Kabul has to face the dangers and tests specifically placed on this planet in order to prove himself worthy of Leadership. Failing any of the tests will end his career as a Legion-Command Officer . . . permanently!

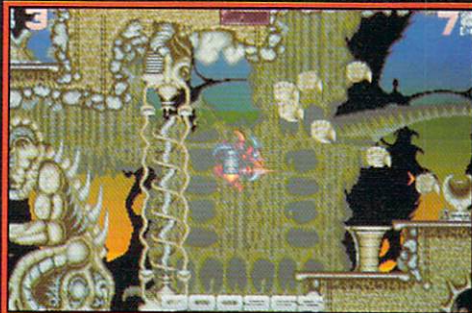
To give him a fighting chance, Ku-Kabul is fitted with twin laser cannons and refuelable jet boosters.

Using brains and brawn he must find, collect and use objects to solve the many perplexing puzzles and defeat the hordes of mighty enemies that infest this deadly arena.

3-layer parallax scrolling, arcade-speed action and powerful FX combine with total-gameplay addiction to bring you the experience that is Ork!

Are you Ork enough?

**SEEING IS BELIEVING!**

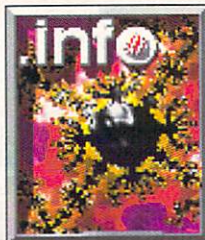


## PSYGNOSIS

29 Saint Mary's Court,  
Brookline, MA 02146  
Telephone: (617) 731-3553  
Fax: (617) 731-8379

PSYGNOSIS





# Issue #45, December 1991

**About the cover:** The cover illustration this month is a 24 bit 1536 x 960 *Lightwave 3D* rendering of a scene created with several tools including Bruce Thomson's shareware *Fractal 4D*, ASDG's *ADPro 2.0*, Byte by Byte's *Sculpt 4D*, Axiom's *Pixel 3D 2.0*, Analytic Arts' *Fractal Generator* and Digital Arts' *Apogee 3D Fonts 1*. As always, *.info* is produced and managed entirely with Amigas running off-the-shelf consumer software and peripherals. *.info* was the first magazine in the world produced entirely with personal computers.

CONTENTS CONTENTS CONTENTS CONTENTS CONTENTS



Check out page 26 & 27 for  
*.info's* annual pick of the best  
computer games for 1991

## ProVisions

38



### ◆ MultiMedia page 38

Harv Laser examines *Scala* for the Amiga and *Dr. Wellman* for CDTV.

### ● Audio page 41

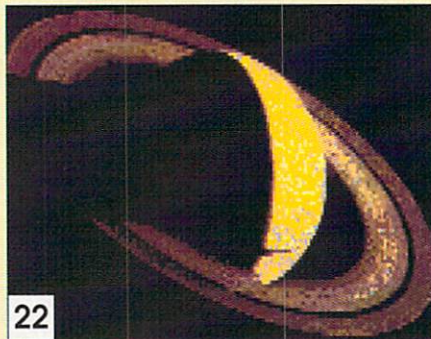
Bob Lindstrom boots up *The Blue Ribbon Soundworks' Bars & Pipes Professional*.

### ■ Video page 43

Oran J. Sands III is highly impressed with Gold Disk's long-awaited *ShowMaker*. Plus Benn Dunnington delivers an exclusive *.info* preview of *Toaster 2.0*.

### ▲ Graphics page 46

Bradley Schenck compares and contrasts *Toaster Paint* and *DCTV Paint*.



22

## Columns

- 15 **UNIX Software**  
Over 80 titles are announced for Amiga UNIX.
- 16 **Public Domain**  
Jeff Lowenthal discovers what's inside a TBAG.
- 20 **Productivity**  
Jim Meyer dissects Precision's definitive database manager, *Superbase Professional 4.0*.
- 22 **SupraModem 9600**
- 23 **Distant Suns 4.0**
- 24 **Art Department Professional 2.0**
- 28 **CyberPlay**
- 64 **Blitz BASIC**

## .info technical support

52



### 52 Proof Positive

Nick Sullivan writes an ARexx program to proofread text files.

### 60 Simple Connection Tip

Chris Zamara shares a secret concerning the mouseport.

### 60 The Future of 24-bit Graphics

Ben Williams of Black Belt Systems discusses the Amiga's graphics future in this guest editorial.

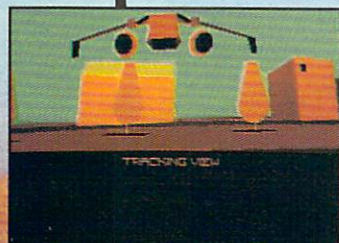
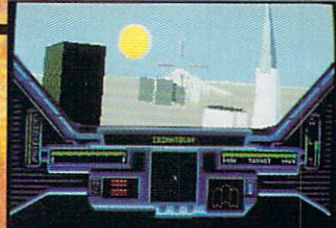
## DEPARTMENTS

- 6 **.info Monitor**
- 8 **Mail**
- 10 **New Products**
- 18 **News & Views**
- 19 **.info Update**
- 65 **At Press Time**
- 65 **Advertisers' Index**
- 66 **Bryce**





# EXTENDED FORECAST FOR SAN FRANCISCO. MOSTLY CLOUDY WITH A SLIM CHANCE OF SURVIVAL.



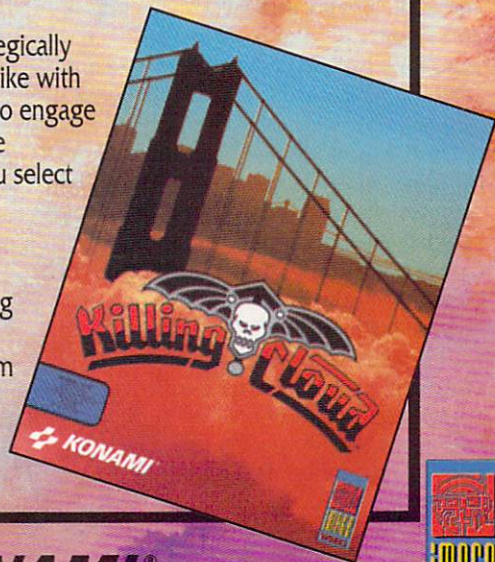
The outlook for the City by the Bay in the 21st Century is grim. A toxic cloud has billowed into town, smothering half the inhabitants. You're a hard-nosed cop called upon to soar through the cloud choked streets in your advanced XB500 hoverbike and defend the dwindling population. Especially now that the cloud provides a sinister smoke screen for the evil doings of a rabid pack of criminals, The Black Angels. Your mission is to net the ringleaders and solve the mystery of the cloud that kills.

Receive each of ten daring assignments in the Briefing Room and strategically plant nets and robotic holding units throughout the city. Stoke your hoverbike with machine gun ammo, cannon rounds and a reserve fuel tank, then prepare to engage enemies in dogfights, seize robots and intercept enemy attacks. Interrogate captured suspects for key information. Exhilarating flight simulation lets you select flight or hover mode, forward and reverse thrust, refuel, radar detection, weaponry, multiple views and more. Navigate your way through an urban obstacle course of 240 authentically scaled San Francisco buildings and landmarks. To survive, you'll have to be skilled at piloting, combat, mapping strategies, and sleuthing.

It's time now to don your foul weather gear and shield the citizens from the suffocating smog. See for yourself why the Killing Cloud will take your breath away.

**Available Fall 1991 for MS-DOS and Amiga.**

**Circle #104 on the Reader Service Card**



©1990 Vektor Graphics Ltd.  
© 1991 Mirrorsoft Ltd. The Killing Cloud™ and Image Works™  
are trademarks of Mirrorsoft Ltd.  
Konami® is a registered trademark of Konami Co., Ltd.  
© 1991 Konami, Inc. (708) 215-5111. All Rights Reserved.

**KONAMI**





## COMPUTING AIN'T CHEAP

It seems like with the Amiga, everything new and exciting costs more money. (And with the economy still on its long road to 'recovery,' money is usually in short supply.)

Take the Video Toaster, for example. If you want to get into Toasting, you not only need to buy the Toaster, but you'll likely want to invest in a timebase corrector, extra RAM, an accelerator card, a big hard drive, an editing VCR, and a color camcorder. At least.

Or maybe you just want to get into 3D. So you buy some raytracing software. And a little more RAM. And a removable media hard drive to hold all your nifty new 24-bit images. Which you display on your new 24-bit board.

Where do you get the money for all this? If you're not earning a living with your Amiga, it's hard to justify spending as much as a new car on computer equipment. Not that it's wrong to do so, mind you... it's just hard to justify. Especially to a spouse or parents with a different agenda.

Fortunately, there is a solution, of sorts. It relies on an ancient and time-honored formula which has stood humankind in good stead for many, many centuries. I'm going to share it with you now. Are you ready? Here it is:

### TIME = MONEY

Study that equation. Memorize it. It works. For example, Let's say you've got a nice little Amiga 500 with an A590 hard drive and Commodore 1084 monitor. That means three megs of RAM and a 20 megabyte hard drive. A very nice system, and if you managed to hit the right Power Up programs and dealer specials, you probably spent less than \$1200 on it. Now you want to get into raytracing, but the thought of eating oatmeal for a year so you can buy a removable media hard drive, an accelerator card, and a 24-bit display board leaves you cold. No problem. You just pull out the old formula: TIME = MONEY.

Instead of buying a removable media hard drive, you buy a hard drive backup program and a box of floppies. Now you allocate 10 megs of your hard drive to applications programs and Workbench and 10

megs to a 3D working directory. Then you work until you fill up the work directory. When it's full, you back it up to floppies, verify the backup, and wipe the partition clean. Now you've got 10 more megs to work with. When you need to access any of the archived files, you simply pull out the proper backup and restore them to the hard drive. It takes time, and you need to carefully record which files are where, but it works. You've just turned time into money.

Of course, raytracing takes a lot of time, and you're wasting a lot of time just sitting there waiting for renderings to finish. You need an accelerator, but you're broke. Have you thought of simply spending all your time at the computer editing, then setting up the software to load in and render your images one after the other while you're asleep or at work? The 'TIME = MONEY' formula works again. (Don't forget to turn off the monitor while you're gone to save energy and avoid shortening its lifetime.)

What about RAM? Well, you'll have to be clever. You could render simpler objects independently, then assemble them into more complex pictures in a paint program. Or develop a 'style' that makes up for lack of complexity with interesting lighting and camera angles.

There are even low-cost alternatives to high-end items like the Video Toaster. You can get some pretty impressive effects just by manipulating ANIMs frame by frame in DPaint and ADPro and compositing the results. Will it take more time? Definitely. Will it look as good? Maybe not, but it might get you by. Creativity and imagination are the keys. Those, and the magic formula: TIME = MONEY.

By the way, the formula works in a more literal sense, too. If you want money for expansion, all you need to do is sell a little time. That may mean mowing yards or cleaning garages, or it may mean finding creative ways to sell your time at the computer to others. For example, with *Di-giView*, a camcorder, and a copy of *Cross-Dos*, you can digitize pictures for IBM owners and put them on disks they can view on their PCs. Charge them \$5 apiece and you've not only generated a few bucks for expansion, you've justified your computer to your spouse. It's a thought.

## .info Publications

**Publisher & Editor**  
Benn Dunnington

**Managing Editor**  
Mark R. Brown

**Senior Editor**  
Tom Malcom

**Technical Editors**  
Nick Sullivan  
Chris Zamara

**Contributing Editors**  
Greg Conley  
Mort Kevelson  
Harv Laser  
Bob Lindstrom  
Jeff Lowenthal  
Jim Meyer  
Oran J. Sands III  
Brad Schenck

**Art & Production**  
Megan Ward  
Tony Bodensteiner

**Data Manager**  
Judith Kilbury-Cobb

**Advertising Director**  
Anna Folkers

**Marketing Director**  
Joy E. Schmelzer

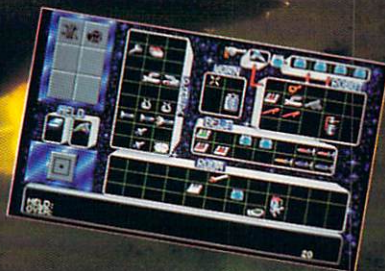
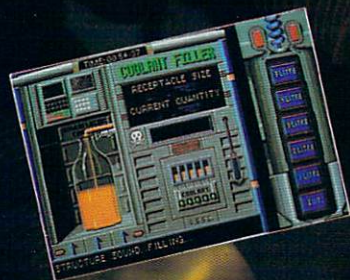
**Advertising Sales** (319) 338-3620  
**Facsimile** (319) 338-0897  
**Subscriptions** (319) 338-0703

COPYRIGHT © 1991  
BY .info PUBLICATIONS  
ALL RIGHTS RESERVED

.info (ISSN 08975868) is published monthly except bi-monthly in August-September by .info Publications, 705 Highway 1 West, Iowa City, IA 52246. US subscription rate is \$26.00, one year; \$47.50, two years; \$65.00, three years. Canada/Mexico rates in US funds are \$34.00, one year; \$63.50, two years; \$89.00, three years. Foreign surface rate is \$50.00 (US funds), one year. Second-class postage paid at Iowa City, IA and at additional mailing office. POSTMASTER: Send address changes to .info, 705 Highway One, Iowa City, IA 52246.

.info is an independent journal not connected with Commodore Business Machines, Inc. National and worldwide distribution by Kable News Co., New York, NY. Entire contents copyright 1991 by .info Publications, Iowa City, IA. No part of this publication may be printed or otherwise reproduced without written permission from the publisher. .info makes every effort to assure the accuracy of articles, stories, and reviews published in this magazine. .info assumes no responsibility for damages due to errors or omissions.





## The New Crew Has No Respect.

A routine biological survey mission into the Orion Galaxy became a space nightmare. The biological specimen locks snapped open the instant the fleet's 20 ships time-warped into the eye of the exploding Wolf-Raert nova. The lab's bizarre cargo of 20 alien creatures emptied within minutes, taking control. A desperate SOS was sent out, just as fuel and navigation systems faltered.

The ships drifted along for a decade in hopeless orbit when the SOS finally reached Earth. Most of the human crew had years ago opted for cryogenic freeze. Others still alive, suffer from radiation poisoning.

You must repair and return the ships to earth using what you find aboard....

6 programmable robots, weapons, pass keys, maps and chemical coolant. Your only obstacles are the mad crew, the new crew, and time. You are Spacewrecked.



**KONAMI  
GREMLIN**  
A Publishing Partnership

Spacewrecked™ 14 Billion Light Years from Earth is a trademark of Konami Inc. Konami® is a registered trademark of Konami Co., Ltd. Gremlin® is a registered trademark of Gremlin Graphics Software Limited. © 1991 Konami Inc. © 1991 Gremlin Graphics Software Limited. All rights reserved. Konami (708) 215-5111.

Available Fall 1991 for  
MS-DOS & Amiga. Supports Ad Lib™ &  
Roland™ Sound Boards.

Circle #103 on the Reader Service Card



# R E A D E R M A I L

## .info Mail Boxes

### Our U.S. Mail address is:

.info Reader Mail,  
705 Highway 1 West  
Iowa City, IA 52246

### FAX us at 319-338-0897

### Send EMail to the editors at:

|            |                        |
|------------|------------------------|
| COMPUSERVE | 70215,1034             |
| PLINK      | INFO MAG               |
| GEenie     | INFO.MAG               |
| BIX        | INFO.MAG               |
| InterNet   | infomag@cup.portal.com |

Please do not use our EMail addresses to inquire about subscription problems. Mail sub problems and address changes to the Subscription Department at the above U.S. Mail address.

(Us Aggies know somethin' bout Amigas too, ya know.)

*You are, of course, correct. We're flabbergasted at the number of people who took the time to write to tell us we were wrong. What Tom should have said was: Analog joysticks are not GENERALLY supported on the Amiga. (You know how editors are with adjectives and adverbs - they're the first things cut.) Just as you could hook one up on the C64, you can hook one up to the Amiga. As you pointed out, though, what would you then actually do with it? I was unaware that any games supported an analog joystick, and am happy to see your (unfortunately extremely short) list. Thanks for the information. (But do you Aggies know anything about Hawkeye Football?)*

-Mark

I am writing you in reference to a letter you printed from a user asking if he could use IBM type analog joysticks on his Amiga. The editor's response was similar to 'No, IBM joysticks will not work on the Amiga. The Amiga does not support analog joysticks.' Well, I'm glad to point out that he is wrong. Why, one could even look in any of the Amiga schematics and see that the diagram of the mouse/joystick/lightpen port shows pin 5 as POT X - Horizontal Potentiometer, and pin 9 as POT Y - Vertical Potentiometer. That sounds analog to me. One could also look on p.228 of the *Hardware Reference Manual* and see how to read proportional controllers.

There does happen to be some support for analog joysticks now (albeit small). The list of supporters include: *Flight Simulator II*, *F19 Stealth Fighter*, *MIG - 29 Fulcrum*, *Pro Flight*, *F15 Strike Eagle II*, and *Flight of the Intruder*.

If anyone out there is interested in supporting the analog joystick, then I'll refer them to Fred Fish Disk #247, to 'Analog Joystick' which gives a driver and some example programs. It is also freely distributable. Let's get some support going here by showing software makers that analog support is desired! Be sure to make note of it on the registration cards.

- John Jordan, College Station, TX

Hi Guys. I really like your magazine, etc. What is scary is that I sometimes learn something, too. Okay, I do have a question, or maybe a subject for an article. I have never seen an article written about chips- or maybe I missed it. (I did see the RAM chip thing.) What I want to know is what are all these Agnuses, and will any work with my system? I seem to remember something about some fat or fatter thing not working on a 500. (I have a 500 with a revision 5 - I think - motherboard.) What is an ECS, and do I want one? How fat can I get, and would I want to? As a 500 owner, if I add a minimidgetracerthingdohicky I can't get flickerfree, too, can I? Regardless of the names - can I accelerate and deinterlace? What if I buy *Bodega Bay*? Are you sick of me yet? I have one last question: Can I separate my keyboard and put the computer in a BBay type box? You know, make it look like a real computer?

- Dave Koch, CompuServe

P.S. I have never written a letter to an editor before. Did I seem nervous?

*Calm down, calm down. We understand how scary it can be writing to editors for the first time. Will they like me? Will they still respect me in the morning? Of course we will! And we're glad you learn a few things reading .info - it tells us we must be on the right track. As for your other ques-*

*tions, the Agnus is the Amiga's graphics coprocessor. The original Agnus could address a half megabyte of memory, though it quickly became apparent that 512K wasn't enough. That led to the replacement, the Super Agnus (she gets offended when people call her Fat), which could address a full meg. There are even ways to expand to two megs, though how fat you yourself get is certainly nothing we would ever be so crass as to mention. The ECS, or Enhanced Chip Set, was Commodore's answer to upgrading the Agnus, as well as some other things. Acceleration, which is what the MegaAltitudinallyChallengedPersonThingy (the more politically correct term) is, has nothing whatever to do with your video display. To get rid of interlace flicker, you need something like the FlickerFixer or Flicker Free Video. You can accelerate, flicker, not accelerate, not flicker, or any combination thereof; the choice is yours. Some third-party boards are, of course, not compatible with each other, mostly because they don't fit inside the case together. And finally (no, we're not sick of you yet, just a little out of breath) a Bodega Bay won't allow you to detach your keyboard, though you can add a detached keyboard with Co-Tronics' KB-Talker (see New Products, #43). Besides, who's to say what a real computer looks like? Now that your first time is over, was it good for you, too?*

-Benn & Mark

This is an ".info is GREAT!" letter, plain and simple.

- Chuck Woo, Berkeley, CA

*This is a "Thank You," short and sweet.*

-Benn & Mark

*.info is still looking for game tips, sidedoors, backdoors, and outright cheats. Specifically, we're looking for tips for newer games, those released in the last year or so. If you've found something interesting in a game you're playing, please send it to .info-Mania at the address at the top of this page. Not only will we be forever grateful, we'll credit you with the tip in print: your chance for, if not fortune, at least fame!*



# LET'S SEE THE GUY IN THE RED SUIT TOP THIS.

**H**ere's a holiday offer for educators that even Santa will find hard to top.

It's called the Amiga Power Up™ Program. And if you're an educator, it can save you hundreds on an Amiga® 500 computer. Just bring your school ID or business card to an authorized dealer. And save \$143 on an Amiga 500P (off the MSRP of \$642). Or \$200 on an Amiga 500S (off the MSRP of \$599).

The Amiga 500S hooks up to a TV.\* It has incredible graphics – with more than 4,000 colors, built-in sound, word processing, and three exciting games.

The Amiga 500P includes one MB of RAM, a word processor, a clock/calendar, paint and

UP TO  
\$200 OFF  
AN  
AMIGA 500

## THE AMIGA POWER UP PROGRAM



music programs and a challenging graphics-oriented game.

The multimedia Amiga has video and animation capabilities, too. With available hardware and software you can create original art, add music and sound effects, and run striking 2-D and 3-D animation.

And behind every Amiga is a 24-hour, toll-free hotline. Plus a limited one-year warranty with pick-up and delivery for warranty repairs.

See your authorized Commodore dealer before January 19. Or call 1-800-66-AMIGA. (In Canada call 1-800-661-AMIGA.) And take advantage of the holiday offer for educators that's in a class by itself.

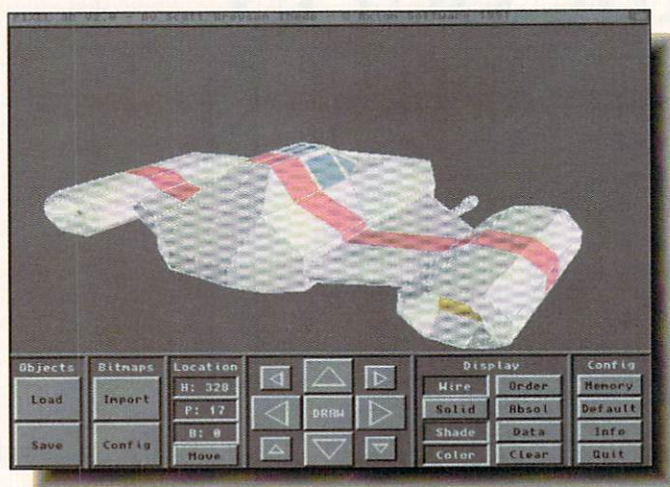
Subject to dealer participation. See authorized dealer for details. Not valid with any other offer or special pricing program. Offer may vary in Canada. Offer ends January 19, 1992. Commodore, the Commodore logo, VIC 20, 64, 128, Plus 4 and Pet are trademarks of Commodore Electronics Ltd. Amiga is a trademark of Commodore-Amiga, Inc. \*With optional A520 RF modulator.

Circle #173 on the Reader Service Card



# NEW PRODUCTS

The new *Pixel 3D 2.0* can consolidate vertices and cut rendering times.



## GRAPHIC THEOREM

There's a brand new and much-improved 2.0 release of *Axiom Software's Pixel 3D*. The original release of *Pixel 3D* was intended as a way to convert 2D IFF images to 3D objects, and 2.0 still has that autotracing function, but that's only a small part of what it does. The 2D-to-3D process can include spinning the image, color-defined extrusion, beveling, and line smoothing. However, *Pixel 3D* can also be used as a utility to convert 3D objects from one format to another. It supports seven major formats: *LightWave*, *Imagine*, *3D Professional*, *Sculpt*, *Turbo Silver*, *Videoscape 3D*, and *DXF* (for save only). The most interesting part, though, is that *Pixel 3D* has data manipulation functions that can be used to remove redundant points and consolidate triangular facets into multi-sided polygons. That means your rendering times will be faster and file sizes smaller. Retail price is \$129.95, and registered owners of *Pixel 3D 1.1* can upgrade for \$40. 1221 East Center St., Rochester, MN 55904. 507-289-8677. RS #200.

## MOUSING CDTV

One of the biggest gripes people have about CDTV is that there's an Amiga in there, but there's no way to plug standard Amiga mice and joysticks into the thing and use them instead of the remote. Well, *Ricketts, Inc.* has come out with a little (2" x 1.3" x .6") connector that not only

lets you plug in a mouse and use it just like you would on an Amiga, but also lets you attach a joystick. That means that if you plug in an external disk drive, you can play floppy-based Amiga games. Now that's what we call seeing a problem and providing a solution. Cost of the **Brick-ette**, which contains an onboard chip to handle the gory details of the input, is \$49.95. 8611 E. 63rd Street, Derby, KS 67037. 316-788-9204. RS #201.

## DKB

DKB Software has been producing Amiga hardware almost since Day One. These are the latest releases from them:

**MegAChip 2000** is a \$299.95 board that provides an upgrade path for A2000 owners to install two megs of chip RAM. It comes with a meg onboard, a socket for a Super Agnus, and circuitry that lets the board access the megabyte of RAM that's on the Amiga's motherboard. Once you have the thing installed, its operation is transparent. There is also a special version of the board called the Hi-Rise which has the same function, but is designed to work with Microway's *DEB* extender board. And if you happen to have a *CSA Mega-Midget Racer*, *CSA* is also supplying an extender to use with the *MegAChip 2000*.

**BattDisk** doesn't have leathery wings and a write-protect tab, but it does have two megabytes of battery-backed RAM. There used to be all kinds of the things for the

C64, but this is the first one we remember seeing for the Amiga. The great thing is that you can use the memory just like a regular RAM disk, but the contents are retained even after you turn the computer off. The *BattDisk* is autobooting, which means you could have your Amiga up and running almost instantaneously. It will even let you have nine megs of RAM installed and still have the extra two megs it provides. Cost is \$269.95 with 0k.

If you worry about the CIA or FBI gaining access to your A2000 or A3000 (or if you just want to keep the kids from messing around with your saved games), check out the **SecureKey** (\$124.95). The device takes over the machine when you power up and won't allow access until you enter the password you've selected.

To ease the transition between old and new operating systems, DKB has come up with **MultiStart II** (\$99.95) and **Kwik-Start II** (\$99.95). *MultiStart II* installs in an A2000 or A500 and provides sockets for three Kickstart ROMs, while the *KwikStart II* is for the A1000 and can accept two ROMs. Both units make provision for specifying which ROM to boot from as well as a way to switch between them when you reboot. You will, of course, have to supply your own ROMs. DKB Software, 50240 W. Pontiac Tr., Wixom, MI 48393. 313-960-8750. RS# 202

## COROLLARY MUSIC

We don't have all the details on *Diemer Development's* new music software, dubbed **Sequel**, but they tell us it's a mid-level sequencer with 32 tracks and 16 MIDI channels, support for both MIDI and IFF, MIDI and SMPTE sync, and stereo Amiga sounds. Above all, it's designed to be easy to learn and use. It has a resolution of 192 ticks per quarter note, several different track switches, and quantizing to any beat value. The playback looping is very flexible, including definable repeats, and 256 levels of nesting, while record looping supports layer or retake modes, with each pass going to a separate track. *Sequel* has graphic output in an autscrolling Notation List, which uses standard notation symbols. Input can be via mouse- or keyboard-drawn



NOW  
AVAILABLE  
for the  
**AMIGA.**

## Design and Build Authentic Medieval Castles!

With CASTLES™ you can now design the layout of your own medieval dream castle. You'll need to pick a good site that is easily defendable from attack and then decide where to put towers, walls and doors. What kind of gatehouse should you build? How high should the battlements be? How hard should you make the peasants work and how much should they be taxed? Dare you get involved in quarrels between the church and state? Should you respond to pleas for help from neighboring barons, leaving your own walls exposed to sieges?

As lord or lady of the realm you'll be able to make life and death decisions over your fiefdom. Burden overtaxed peasants with tyrannical demands. Then, defend your castles in bloody battles against the angry, overtaxed peasants! Cheat workers of their hard-earned wages. Engage in brutal treachery and make scores of



IBM Screens Pictured

enemies, then sit in a cold damp castle and wonder why no one likes you. All the neat things that went into making the medieval ages a swell time are in this package!

### CASTLES™ features:

- 256 color VGA graphics.
- Full musical score with major soundboard support.
- Build individual castles or conquer the wild frontier in an eight game campaign.
- Choose between realistic and magical settings.
- Three levels of difficulty, from easy to challenging.

To order CASTLES™,  
call 1-800-969-GAME.  
Available on MS-DOS  
for \$59.95. Coming  
soon on Amiga  
and Macintosh.

**Interplay™**

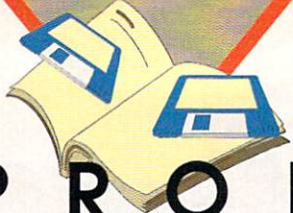
Interplay Productions  
3710 S. Susan, Suite 100  
Santa Ana, CA 92704  
(714) 549-2411

©1991 Interplay Productions. All rights reserved. Castles™ is a trademark of Interplay Productions. MS-DOS is a trademark of Microsoft Corporation. Amiga and Macintosh are trademarks of their respective corporations.

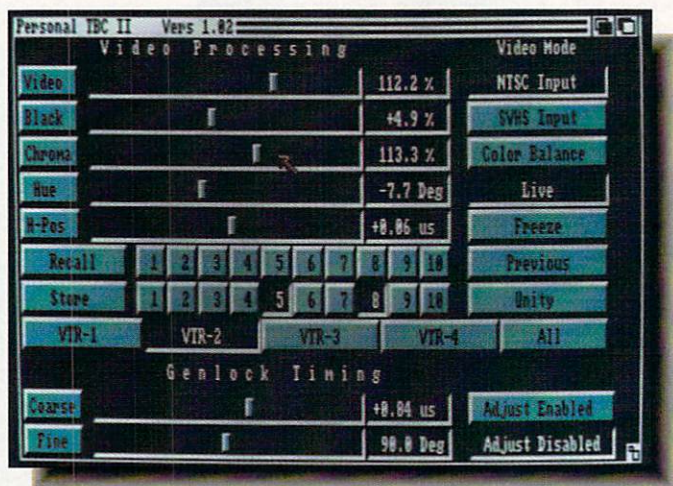
# CASTLES



# NEW PRODUCTS



Adjustments  
and controls  
for the  
*Personal  
TBC II*.



curves to establish tempo, pitch, pressure, and control changes. Editing supports the usual cut, copy, paste, etc. No price had been set at presstime. 12814 Landale Street, Studio City, CA 91604. 818-762-0804. RS #203.

## THE CORRECT TIME

**F**ollowing on the heels of their successful *Personal TBC*, *Digital Processing Systems* has come out with the **Personal TBC II**, an infinite-window timebase corrector/synchronizer. It's designed to use with about any VCR, laserdisk player, or camcorder whose timebase needs correction and it also has a genlocking function. This plug-in board offers software control over all proc. amp. functions, timing, and color balance. It has a DIN-type S-VHS input, four BNC connectors, and an RS-232 serial data port. Price is \$995 US, \$1175 CDN. 55 Nugget Avenue, Unit #10, Scarborough, ON Canada M1S 3L1. 416-754-8090. RS #204.

## CATCHING UP WITH GOLD DISK

**T**he *Gold Disk* software cup runneth over. They have five new products and an update to *Professional Page*. [See the Update column for details on *Professional Page 2.1*.]

**Professional Calc** is billed as a high-end presentation spreadsheet aimed at the professional business market. It has, of course,

all the expected spreadsheet functions, and it also has an outlining feature that lets you collapse selected columns or rows to get them out of your way (or hide them from prying eyes) and then expand them again as needed. It boasts over 125 financial, trigonometric, statistical, and user-definable functions, along with ARExx support of 75 functions. These ARExx-supported functions can be called during a recalculation. The graphing features support full-color 2- and 3D bar graphs, pie charts, area graphs, and column x-y scatter charts. When you're ready to label your charts, you can do so in multiple fonts and with effects like drop shadows, embossing, and extrusion. To bring *Professional Calc* more into the mainstream of spreadsheeting, it will directly import *Lotus*, *dBase*, and *Maxiplan* files, and export in *Lotus* format as well. Your charts and graphs can be saved in IFF, *ProDraw* or *Aegis Draw* clip, or EPS format. Which brings us to another point: *Professional Calc* also has direct PostScript support (you can also print to any Preferences printer). Retail price is \$395.

There's something of a lack of consumer-grade video and presentation software in the Amiga marketplace and *Gold Disk* has stepped in to fill the gap with **VideoDirector** (\$199.95) and **MediaShow** (\$129.95). We've already told you about *MediaShow* (May, *info* #39), but it's worth reiterating that it's an easy-to-use, presentation sequencer (*Gold Disk's* phrase, and the best term we've heard for this type of software) that uses a timeline

interface to coordinate graphics, animations, sound, and music. It also has a built-in video titler and has the intelligence to look ahead and pre-load the next segments it needs. *VideoDirector* is specifically designed for the weekend videographer who wants to edit 27 hours of vacation tape into a half-hour of entertaining video that friends and neighbors won't fall asleep watching. Based around consumer-grade equipment, *VideoDirector* includes editing software, a cable that runs from the source VCR or camcorder to your Amiga's serial port, and a programmable infrared remote control for the target VCR. The serial port interface supports VCRs that have remote, Control-L, or LANC systems, which covers most home decks, and there's also direct support for Panasonic AG1060/RS, Sony Vbox, and Selectra Vuport. The software lets you define a series of clips from the source tape(s) and then lets you assemble them in any order for output to the master. The *VideoDirector* also has direct support for Digital Creations' *SuperGen* genlock so you can add titles to your video. Keen stuff!

If you need to do some page layout as well as video work, *Gold Disk* can help you out there, too. **PageSetter III** is for entry-level publishers who are looking for an all-in-one package. *PageSetter III* has a word-processor, spellchecker, paint program, and page layout program. As if that weren't enough, there's also a collection of structured clip art. Price is \$129.95.

Finally, to keep the kids out of your hair while you use all this other stuff, there's the **Animated Coloring Book** for CDTV. It has 12 different animated scenes, including dinosaurs, pets, and circus performers, each with an accompanying soundtrack, that can be colored and then animated. You don't even have to show the kids how to use it: there are voice prompts to guide them through it. \$39.95. 5155 Spectrum Way, Unit 5, Mississauga, ON Canada L4W 5A1. 416-602-4000. RS #206.

## HAVING AN IMPACT

**T**he 24-bit display wars are heating up with the release of *Great Valley Products' Impact Vision 24*. The board,

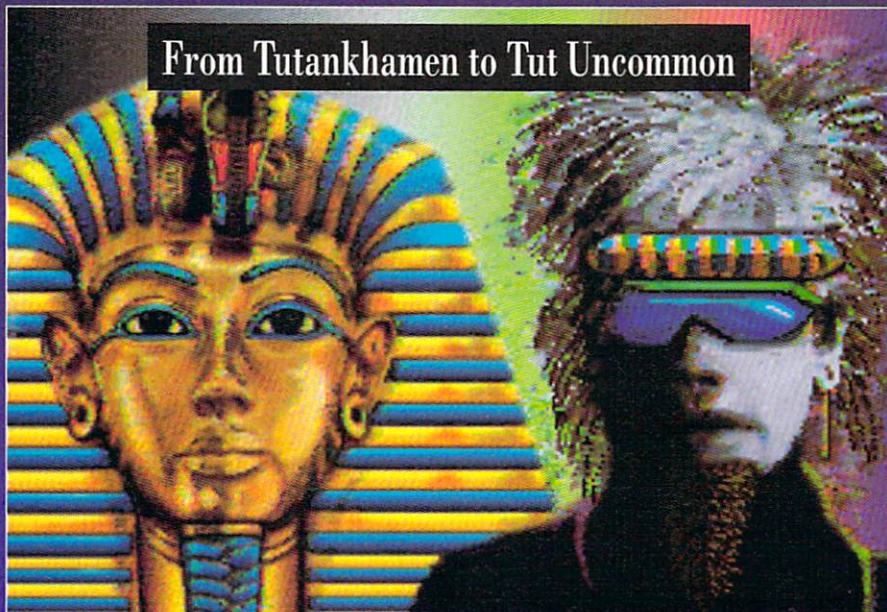


# DELUXE PAINT IV

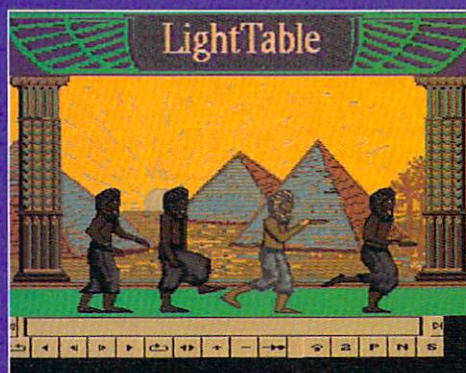
## KING OF PAINT AND ANIMATION

There's a reason DeluxePaint® has been the leading Paint and Animation program throughout the evolution of the Amiga®. We've consistently overcome obstacles as large as pyramids to bring you the most intuitive, up-to-date graphics programs available. That's why our list of satisfied customers is as long as the Nile. So, forget about using those other programs with the hieroglyphic interfaces and enter the next era of paint and animation with DeluxePaint IV.

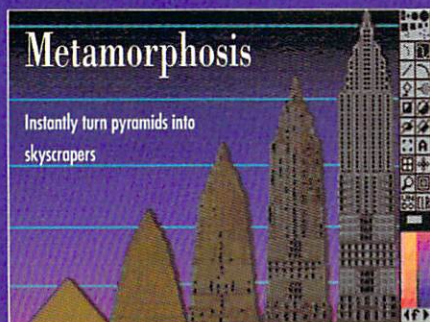
### From Tutankhamen to Tut Uncommon



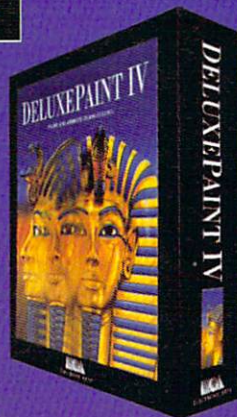
**Powerful New Tools**  
Everything needed to transport you from the Cradle of Civilization into the Modern Age, including Tinting, Translucency and Anti-Aliasing.



**Superior LightTable**  
You'll be doing the "Tut two-step" when you see how easy it is to create animations. Now, see through your current frame to four additional frames — in color!



**Easy Metamorphosis**  
Watch evolution unfold. Instantly animate the shape and image of one brush into any other brush.



### DeluxePaint IV features:

- Paint AND Animation in HAM using all 4096 colors
- Improved gradients are now smoother, more versatile and easier to define
- All new Color Mixer makes creating and choosing colors a snap
- New Animation Control Panel with VCR-style interface means no more searching through menus for the animation controls you need. Now, just point and click.
- Enhanced Stencils give you greater control over image processing and image manipulation

Plus all the Award-winning features you've come to expect from DeluxePaint:

- AnimPaint™ — Creating animations is as easy as pressing one key to record your paint strokes and another to play them back
- Instant 3-D perspective
- Direct Overscan support for video applications
- Split screen Magnification with variable Zoom
- Animated brushes to simplify cel animation
- Move Requestor lets you automatically animate brushes in full 3-D
- Extensive keyboard equivalents help advanced users work more efficiently

For more information about DeluxePaint IV and our special upgrade offer, call 800-245-4525 ANYTIME!

And You Thought Tut was Ancient Art



ELECTRONIC ARTS®

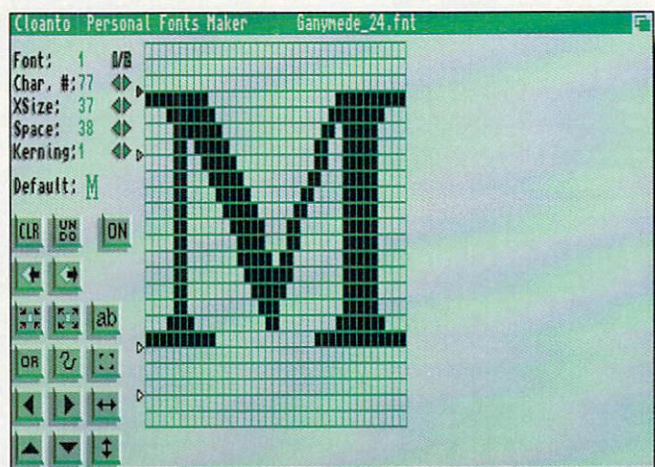
Amiga is a registered trademark of Commodore-Amiga, Inc. All other trademarks are trademarks or registered trademarks of Electronic Arts.

Circle #112 on the Reader Service Card



# NEW PRODUCTS

Font design  
with an  
Italian flair:  
*Personal Fonts  
Maker*.



which is specifically designed for the A3000 video slot (it requires an adapter to work in an A2000), doesn't even begin to stop with a mere 16-million color display. In fact, there doesn't seem to be much GVP *didn't* manage to cram onto the thing. There are two separate genlocks, one composite and the other component (RGB+sync), a flicker eliminator, three simultaneous video-out signals (RGB, composite, and S-VHS), and 1.5 megabyte frame buffer. Of course, there's also a realtime framegrabber so you'll have something to fill the buffer with. The most impressive thing about the *Impact Vision*, though, is its Picture-In-Picture ability. You can open a live video window on a Workbench screen and then resize it, freeze-frame the image, rescale it, and drag it around the screen. If that weren't enough, you can also do the reverse, opening a Workbench window on a video screen! There's a software control panel to give you mouse or keyboard control over its multitude of functions. The board comes with an whole array of support software: *Caligari-IV24*, a special version of Octree Software's modeling/rendering/raytracing software; *Scala*, GVP's Euro-import video titling package developed by Digital Visions; and *Macropaint-IV24*, a version of the paint program written by Eric Quackenbush, formerly of Lake Forest Logic and now GVP's director of software development. We wouldn't be a bit surprised if there's a kitchen sink somewhere in the package, too. The cost of all this wonderment is

\$2199. 600 Clark Avenue, King of Prussia, PA 19406. 215-337-8770. RS #205

## TWO FROM CENTAUR

**C**entaur Software continues its steady stream of new product introductions with a pair of Italian imports from Cloanto.

**Personal Write** (\$49.95) is a versatile wordprocessor that is of particular interest if you need to work in languages other than English. It's admirably suited to English, too, but it's rare to find a wordprocessor that will let you specify a language to work in from a menu selection and switch easily from one to another. It has its own print-spooler, and the output support includes PostScript, download fonts, and the usual Amiga printer support. It also has direct support for fonts created with *Personal Fonts Maker* (see below). You can import graphics, which can then be moved around and recolored if you want. *Personal Write* takes the approach of letting you define your own key commands, so you can tailor it to the way you like to use a wordprocessor.

The first thing that struck us about **Personal Fonts Maker** is the weight of the package; it contains a 320-page manual. It also contains some very sophisticated software for designing and editing both screen and printer fonts, utilities for fixing printer drivers, macro functions, and even a programming language. The macro and programming functions are the most impressive; they can be used to transform entire

fonts at a time and then automatically download them to your printer. The manual includes some of the most detailed information and advice we've seen on making and modifying fonts. \$99.95. PO Box 4400, Redondo Beach, CA 90260. 213-542-2226. RS #207.

## GFX GDA

**X**Windows on the Amiga is a Unix lover's dream, but it just isn't colorful enough. Dale Luck and *GfxBase* have taken care of that little dilemma by releasing **Graphics Display Adapter 2**, an 8-bit/256-color display board specifically designed to work with XWindows. Existing applications written to conform with the XWindows standard can use the board immediately. It includes autoconfig software and can be used with most VGA, E-VGA, and S-VGA monitors. Cost of the one megabyte version is expected to be in the \$700 range. *GfxBase* also has plans for an optional add-on board that will upgrade the *GDA* to a full 24-bit display with 16 million colors. 1881 Ellwell Drive, Milpitas, CA 95035. 408-262-1469. RS #208.

## FEAR AND LOATHING IN AMIGADOS

**I**f you're uncomfortable with frequently cryptic CLI commands, but can't do everything you want to do with mere pointing and clicking on the Workbench, check out **DiskMaster II** from *Progressive Peripherals*. It gives you multiple, resizable command windows and menus that you can configure to your own tastes. The program, at its most basic, pops up directory listings and you can click on filenames to perform various functions, such as copying a file from one place to another, deleting files, displaying graphics, playing sound files, reading text files, and so on. You can also use it to decompress download files (you will, though, have to provide your own PD copies of the actual archiver programs, like Lharc, Zip, Arc, etc.), and there's also ARexx support built in, so you can automate your housekeeping. *DiskMaster II* retails for \$69.95. 464 Kalamath Street, Denver, CO 80204. 303-893-6938. RS



# AMIGA UNIX SOFTWARE

Commodore has commitments from dozens of third party software companies for over 140 software titles for UNIX. Those which will be available "soon" are listed here.

## Ace Software

6110 Enterprise Parkway  
Grove City, OH 43123  
614-875-4910

- Secondary Educational Administrative System

## American Business Systems

315 Littleton Road  
Chelmsford, MA 01824  
508-250-9600

### ABS Series:

- Accounting System
- Wholesale Distribution System
- Screen Manager for ACUCOBOL-85
- Job Cost System
- Purchase Order Management System
- Point of Sale System

## Acucobol

7950 Silverton Ave., Suite 201  
San Diego, CA 92126  
619-689-7220  
ACUCOBOL-85

## Applied Logic Systems

State Tower Bldg, Suite 720  
109 South Warren  
Syracuse, NY 13202  
315-471-3900  
ALS/PROLOG

## Bair Associates

3000 Zinn Road, Suite 201  
Thorndale, PA 19372  
215-380-1015

### MCBA Series:

- Accounting/distribution System
- Manufacturing System
- Fixed Assets and Depreciation
- Accounts Payable
- Accounts Receivable
- Bill of Material Processor
- Customer Order Processing
- Capacity Requirements Planning
- General Ledger
- Inventory Management
- Job Costing
- Labor Performance

- Material Requirements Planning
- Master Scheduling
- Purchase Order and Receiving
- Payroll
- Standard Product Costing
- Shop Floor Control
- Sales History
- Standard Product Routing

## Comeau Computing

91-34 120th Street  
Richmond Hill, NY 11418  
718-945-0009

- C++
- CCSH

## Cyberscience

10065 East Harvard Avenue,  
Suite 800  
Denver, CO 80231  
800-451-1544  
CQCS

## DUX Software

4546 El Camino Real, Suite W  
Los Altos, CA 94022  
415-948-1500  
DUXWorks!  
Ishido  
Solitaire Royale  
Portable Mail

## Empress Software

6401 Golden Triangle Drive  
Greenbelt, MD 20770  
301-220-1919  
RDBMS  
4GL  
Report Writer

## Ficor

10250 Chester Road  
Cincinnati, OH 45215  
513-771-4466  
AutoGraph Presentation Software:  
Chart  
Illustrator

## GTS-GRAL GmbH

Friedberger Strasse 25  
6100 Darmstadt, Germany  
0 61 51-73 09 0

- GKSGRAL
- GRAL-PHIGS

## NKR Research

4040 Moorpark Ave., Ste. 209  
San Jose, CA 95117  
408-249-2612  
BASIC Compiler  
BASIC Interpreter  
GW Converter  
FORTRAN

## Oakland Group

675 Massachusetts Avenue  
Cambridge, MA 02139  
617-491-7311  
C-Scape 3.2  
Look & Feel 3.2

## Open Text

Waterloo Town Square,  
Unit 622  
Waterloo, Ontario N2J 1P2  
Canada  
519-746-8288  
PAT text search system  
LECTOR real time display  
Transduction Toolkit

## Oregon Software

7352 S.W. Durham Road  
Portland, OR 97224  
503-624-6883  
C++  
Pascal-2  
Modula-2

## PRO-C

Allen Square  
180 King St. South, Suite 550  
Waterloo, Ontario N2J 1P8  
Canada  
519-745-2700  
PRO-C

## P-STAT

PO Box AH  
Princeton, NJ 08542  
609-924-9100  
PSTAT

## Quadratrat Systems

141 Triunfo Canyon Road  
Westlake Village, CA 91361  
805-494-1158

- CliqWord
- CliqCalc
- CliqChart
- CliqAccessories
- CliqPage
- CliqMenu
- CliqForm

## Radical Eye Software

PO Box 2081  
Stanford, CA 94309  
415-322-6442  
Amiga UNIX TeX

## Southware

555 Stage Road  
PO Box 2797  
Auburn, AL 36831  
205-821-1108

### Southware Series:

- A/R Invoicing
- Accounts Payable
- Accounts Receivable
- Assemblies Adapter (Bill of Material)
- Collections Adapter
- ExecuMate II
- Extended Data
- Fixed Asset
- ImportMate
- Inventory Control
- Job Cost
- Order Entry
- Payroll
- Point of Sale
- ReportMate
- SalesMate
- Services Billing
- SwiftMate
- UPS/Shipping

## Trident Systems

10201 Lee Highway, Suite 300  
Fairfax, VA 22030  
703-691-7796  
XTouch

## Unipress Software

2025 Lincoln Highway  
Edison, NJ 08817  
201-985-8000  
EMACS  
MasterPlan V1.1  
Q-Calc Standard



# TBAGS, Turtles, and Other Titles



any user groups prepare and distribute their own disks to members, using Fred Fish and the networks as their software sources. Because they generally have only limited distribution, user group disks have not usually been reviewed in .info. That situation is changing, and so are the disks themselves.

I recently received a selection of "TBAG" (Tampa Bay Amiga Group) disks from MGH Software. This group's disks are beautifully produced using *The Activator*, a standardized interface that makes it easy to access the programs and documentation. Printing the docs is also an option.

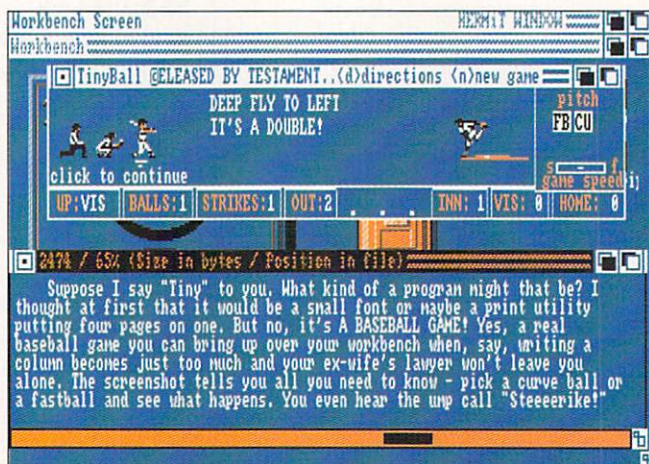
## TBAG 54 [MGH Software]

*Recover-It* is a utility that will help you through that dreaded moment when you find you have just deleted an important file. (Like an .info column! Yes, I did. This one, ironically enough!) F.J. Reichert has provided us with an easy-to-use program which will scan a disk for deleted files, list them, assemble their sectors, and allow you to read and save the recovered material, even if some parts are missing. In testing it, I found all sorts of interesting files I had deleted and forgotten about. Like Dave Haynie's *DiskSalv*, it's a must have.

Suppose I say "Tiny" to you. What kind of a program might that be? A small font, or maybe a little printing utility? No, it's a baseball game! Yes, a real baseball game (shown) you can bring up over your Workbench when writing a column becomes just too much and you need a break. Have the pitcher throw a fast ball and see what happens. The display window tells you all you need to know, except that you also hear the ump shout "Stee-riiike!"

## TBAG 48 [MGH Software]

*The Activator* interface is shareware (\$10.00) and you can use it to produce your own disks. It will run any program or batch file, even those normally requiring the CLI.



Tiny Ball  
baseball game,  
on TBAG 54.

TBAG 48 includes the useful DFC (now up to version 4), which replaces format and diskcopy, takes up less space, and works better. With *The Activator*, it's available via a mouseclick. You need it. Also on TBAG 48, *TextCalc* (previously reviewed in .info) lets you click on numbers in a text file and add, subtract, multiply, and divide them. *SnoopDOS* tells you what your system is doing as it's doing it, showing you what libraries are being used, etc.

## TURTLE SLIDESHOW [MGH Software 384]

TURTLES RULE! I know it's impossible for an adult to really keep up with kids and their fads, but it seems as if the Teenage Mutant Ninja Turtles have become a fixture in their little lives. Not surprising, then, to have this tribute to them in the form of very well done, colorful pictures of their favorites, complete with a couple of sound samples.

## MACHIII.LZH [GEnie #12401]

This is version 3.2f of the do-everything mouse accelerator. This program has been around for a while, with continuing improvements by its author. If your desk is as crowded as mine, you'll like the way your mouse works. A 2.0-style screen allows you to customize everything, including the clock, date indicator, etc. A very

nice macro function, much of it preprogrammed, allows you to do things like open a new CLI by pressing Left Amiga / Esc. Other niceties include activation of whatever window the mouse pointer is in without clicking, etc. A version for 68020 machines is included in the archive. Highly recommended.

## A500 POWER ADJUSTMENT [GEnie #11537]

How's your 500 power supply? Many seemingly mysterious glitches can result from low voltage conditions, especially if you are running lots of peripherals. If you have some aptitude for hardware, you'll want to download this GEnie text file. It explains how to tweak your power supply for better performance. (You'll need a digital voltmeter for precision.) I use a muffin fan on mine, which helps, but will try this adjustment as soon as my column is safely uploaded. P.S: If you fry yourself, don't call me!

## SOURCES

MGH Software, Box 645, Bayfield, WI 54814, 715-779-5600. Prices: 1-10 disks \$2.50; 11-29 \$2.00/ea., Shipping free; MasterCard and VISA accepted.

GEnie Online Services, 1-800-638-9636 for sign-up information.



# SOFTWARE SUPPORT INTERNATIONAL

**CONVENIENCE—FAST SERVICE—RELIABILITY—SUPPORT**

[illegible]

**WE CARRY A COMPLETE LINE OF ACCESSORIES FOR YOUR COMPUTER—ASK FOR OUR FREE CATALOG**

**SOFTWARE**  
  
**Support**

**AMIGA  
IBM AND  
COMMODORE**

Please call or  
write for our  
**FREE CATALOG**

Overseas customers  
please remit 3.00  
U.S. funds to help  
defray shipping costs.

**TOLL FREE LINE  
FOR USA & CANADA**

**800-356-1179**  
Monday-Friday 6AM/5PM Pacific Time  
NEW - Saturday 7 AM/3PM Pacific Time

**INTERNATIONAL ORDERS**  
086 695 1223

206-695-1393  
Same Hours As Above

**NOW ACCEPTING FAX ORDERS**

206-695-0059  
24 Hours A Day!

**TECHNICAL SUPPORT LINE**

206-695-9648  
Monday - Friday 9AM/5PM Pacific Time

\_\_\_\_\_

\_\_\_\_\_

**If You Prefer, You May Mail Your Order To:**  
**Software Support International**

E Andresen Road, Suite A-10, Vancouver, W

2700 NE Andresen Road, Suite A-10, Vancouver, WA 98661

**METHODS OF PAYMENTS** - We accept money orders, certified checks, Visa, M/C, and Discover. Previous customers may also pay COD or personal check. All monies MUST be paid in US funds.

**SHIPPING AND HANDLING CHARGES - USA (48 states), FPO, APO & US Possessions:** Please add \$4.00 per order. US shipping is usually by UPS ground. Fast UPS 2nd Day Air is available (US 48 states only) by adding \$3.00 per pound (1st lb.) and \$1.00 per additional pound (each software item averages 1 lb.). Alaska & Hawaii: Shipping is usually by UPS 2nd Day Air. Please add \$8.50 per order. Canada: Software - \$5.00 for the first piece & \$1.00 for each additional piece per shipment. Canadian Hardware/Overweight order & Foreign Countries: S&H varies per order-piece call or write.

**COD CHARGES** - COD available to previous customers only in all 50 US states. Please add \$3.75 in addition to your S&H charges.

**OTHER POLICIES** - Washington State residents must add 7.6% to their order for state sales tax. Minnesota residents must add 7.5% to their order for state sales tax. Defective items are replaced at no charge, but must be returned within 30 days of invoice date. All in stock orders are processed within 24 hours. US (48 states) software orders over \$100 will be shipped 2nd Day Air at no additional charge above the additional \$4.00 S&H fee. All prices, policies, and specifications are subject to change without notice. All sales are final unless authorized by management.



**We Accept  
VISA, M/C,  
& Discover**



# NEWS & VIEWS

## UNIDENTIFIED FLYING AMIGA

**T**he September 18 episode of ABC's *Unsolved Mysteries* featured a segment on a series of UFO sightings in England. The "dramatic re-creation" showed some nifty flying saucers and brilliant, floating globes of light that were made with NewTek's *Toaster Paint* and *LightWave* rendering software. NewTek tells us that they were done by Joe Conti of Apogee Productions, and that the director of the show liked what he saw so much that we'll be seeing more Toaster effects in prime-time.

## BILLION DOLLAR COMMODORE

**C**ommodore's sales broke the billion dollar mark for 1991, the first time they've managed that trick since the boom of the early 1980s. Their annual report shows a net profit of \$57.4 million on sales of \$1.0472 billion. The fourth quarter of 1991 (Commodore's fiscal year ended on June 30) shows a net profit of \$3.3 million on sales of \$216.5 million. However, in the usual financial finagling that goes on, there were two factors that affected the figures: first, a court settlement of \$9.2 million was posted which brought the net income to \$48.2 million, or \$1.45 per share for 1991.

Second, and offsetting the settlement, there was an \$8 million reduction in income tax accruals that were no longer required. What this all boils down to is that Commodore showed a \$.10/share profit for the fourth quarter, as opposed to a \$.11/share loss for the same period of 1990. Profits for all of 1991 worked out to \$1.73/share.

The most significant news about the figures, though, is that 85% of Commodore's sales were in Europe. The profits would have been even greater if the US dollar hadn't strengthened, or as Commodore puts it, "substantial adverse impact of unfavorable currency effects." The company also reports a 13% reduction in operating expenses for 1991.

As for specific machines, Amiga sales were up 20% over 1990, the Professional PC machines were up 35%, and, believe it

or not, C64 sales grew by 30%. No figures were released on CDTV - we understand they're being included in the 'Amiga' category.

Commodore Germany reports that although the German market is saturated, European sales were up by 40.6% over 1990. Commodore Germany posted sales of \$294.3 million (US), and reported profits of \$981,000, up 348% from 1990, when profits were \$218,850 (US). There were about 7.5 million computers sold in Europe in 1991, of which 900,000 were Commodore machines, or about one in eight. Commodore's market share is 12%, second only to IBM.

## ASDG APPRECIATION

**A**t the most recent DevCon, Commodore presented Perry Kivolowitz, ASDG's President, with a plaque in recognition of the considerable contribution ASDG's *Art Department Professional* has made to the development of CDTV software. *ADPro* was instrumental in bringing such titles as *World Vista*, *Time Table of History*, *The New Grolier Electronic Encyclopedia*, and the *American Heritage Encyclopedic Dictionary* to CDTV. Congrats to Perry and all the folks at ASDG.

## BUNDLE

**C**ommodore is, at least for a while, bundling copies of *The New Grolier Electronic Encyclopedia* and *Psygnosis' Lemmings* with all new CDTV units. The encyclopedia disc contains all 21 volumes of Grolier's American Academic Encyclopedia on one CD and it's a whole lot easier to carry around. Contact Commodore for more information. 1200 Wilson Drive, West Chester, PA 19380. 215-431-9100.

## EA/PSYGNOSIS DEAL

**E**lectronic Arts and Psygnosis have signed an agreement to bring Psygnosis' games to the Sega Genesis machine. EA will be distributing the titles worldwide, and given the quality of Psygnosis' games, the deal will surely raise cartridge gamers' expectations of what games should be. The first two titles to be released will be *Shadow*

*of the Beast* and *The Killing Game Show*, which has been renamed as *Fatal Rewind*.

## BLISSFUL IGNORANCE

**R**eaders Dennis Hillstrom of Colorado Springs sent us a copy of the blurb for CDTV that was published in the *Bottom Line Personal* newsletter. In the Breakthrough Electronics section was the following (verbatim):

Laser Computer. Linked to a personal computer, your TV and your stereo, it lets you play wonderful videogames and use interactive educational programs. Also plays music CDs and eight- and 12-inch videodiscs. Must be used with a Commodore (Amiga) computer.

Commodore. CDTV system. Available now. Hardware: \$999. Software: \$40 to \$200 each.

Anybody know where we can get one of these machines? We'd love to hook one up to our Amiga and play regular videodiscs on it.

## SAVING MONEY

**U**sing CompuServe just got a lot cheaper. The most popular online service around has announced a new flat rate of \$7.95 per month for basic service. You'll still have to pay a surcharge for extended services, but they're even making those easier by simplifying the billing, combining connect time charges and communications surcharges into one entry. The basic, flat-rate service includes many of the most-used areas: News, Sports, Weather; Reference Library; Shopping; Games & Entertainment; Money Talks; Travel and Leisure; and the Communication Exchange. This last one includes CompuServe Mail and it includes a monthly allowance of up to \$9.00 for sending electronic mail, the equivalent of about 60 two-page messages. Reading your incoming mail is free, with the exception of that coming through Internet, and sending applies to both ASCII and binary messages. For complete details, GO NEWBASIC on C-Serve, or call 614-457-8600 by voice. All of this is preliminary information, and CompuServe says it is subject to change.



# NEWS & VIEWS

## .info UPDATE

### VERSIONS

✓ Precision has done a little bug swatting in *Superbase 4.0*. The new 1.01 version of the database management program is automatically being shipped to registered owners. 8404 Sterling Street, Suite A, Irving, TX 75063. 214-929-4888.

✓ *Professional Page* is currently at version 2.1 and has updated its Compugraphics font support to AGFA's new Bullet(tm) scaling technology. Gold Disk claims it increases the program's speed by 100% over version 2.0. Support for dot matrix printers has been improved, with landscape printing and adjustable offsets now possible. The upgrade also includes a new freely-distributable help disk created with *HyperBook*. Some of the help topics include tags, importing graphics, Compugraphic fonts, Pantone colors, and color separations. There's a sliding scale for upgrade costs: owners of *ProPage 2.0* can upgrade for free, 1.3 owners for \$75, and 1.2 or earlier for \$100. 5155 Spectrum Way, Unit 5, Mississauga, ON Canada L4W 5A1. 416-602-4000.

✓ Sunrize Industries tells us that there's a problem with running their *Audition 4* sound editing software under early versions of WB2.0. It works just fine under the release version, but not under the ones on most A3000s. Until you install the release 2.04, the workaround is simple: run *Audition 4* under 1.3. 2959 S. Winchester Blvd., Suite 204, Campbell, CA 95008. 408-374-4962.

✓ MegageM is shipping *BarPro/A Version 2.0*, which has added some new features to the bar code program. It has PostNet capability that conforms to the Postal Service's standard for 5 and 9 digit zipcodes and bar code labels are now variable from 1 to 99 pixels. The biggest addition, though, is ARexx support for generating bar code labels from ASCII text files. That

means you could make bar coded labels directly from database files. 1903 Adria, Santa Maria, CA 93454. 805-349-1104.

✓ If you've been holding off buying Natural Graphics' *Scenery Animator* until you get an accelerator installed, now you don't have to wait. Version 1.01 includes an additional version of the program which will run on a stock 68000 Amiga (the initial release required at least an '020 and a math coprocessor). A few minor bugs have been swatted, too, and owners of the the 1.0 version can upgrade for free. The price remains the same at \$99.95. PO Box 1963, Rocklin, CA 95677. 916-624-1436.

✓ Radical Eye Software has released an upgraded version of *Amiga Unix TeX*. Among the new features of the typesetting software are more extensive printer drivers and the ability to use IFF graphics. It's compatible with *TeX 3.1*, *Metafont 2.7* standards and supports virtual fonts in the previewer and in all the device drivers. This release can output to PostScript printers and typesetters, HP LaserJet, HP DeskJet, HP PaintJet, Epson LQ, NEC Pinwriter, Canon BubbleJet 10e, ImageWriter II, and the Epson FX series. Contact Radical Eye for upgrade details. Box 2081, Stanford, CA 94309. 415-322-6442.

✓ Remember *Fantavision*? It was originally brought out by Broderbund and now a new company called Wild Duck has been formed by *Fantavision*'s original creators to market the animation and special effects program. Retail price remains at \$59.95 and you can contact Wild Duck at 979 Golf Course Drive, Suite 256, Rohnert Park, CA 94928. 707-586-0728.

✓ We've received some more information on Co-Tronics *KB-Talker*, the interface box that lets you use an AT-style keyboard on an Amiga. First, the price has been reduced

to \$64.95; Co-Tronics says they can do this because they're phasing out the pass-thru. This is no loss for A2000 users, but it is a feature some A1000 owners may want, including the ability to plug in an A2000 keyboard. The company says they're hanging onto a few old units, so A1000 owners who want one shouldn't waste any time in placing an order. One more clarification: the *KB-Talker* is designed to work with standard, 101-key AT keyboards; non-standard or system-specific keyboards may or may not be completely compatible. (Though it can't hurt to try them.) The interface also has some limited bar code reading capability, though only with those keyboards and wands that convert the incoming bar codes to keyboard-type data. Finally, A1000 owners having trouble with unplanned reboots are advised to always turn off the machine before connecting the interface - a good practice before plugging anything in. By the way, *KB-Talker* for the A500 should be available by the time you read this. PO Box 5146, Glendale, AZ 85312. 602-435-0350.

✓ Centaur has announced that they have picked up Hologramophone's *Pixound*, which is easily one of the two or three most esoteric (and wonderful) programs ever released for the Amiga. This upgraded version 2.5 of *Pixound* lets you load in a graphic and play it as music based on the RGB values it contains. It works quite well with only internal Amiga sound, but its real magic comes out when you play it through a MIDI keyboard. There are a multitude of controls you can tweak, or you can just load in a set of IFF screens (it will handle any resolution, including HAM), set the thing running, sit back, and enjoy. The music *Pixound* produces is unlike anything you've ever heard. \$79.95. PO Box 4400, Redondo Beach, CA 90260. 213-542-2226.



# Superbase Professional 4



What you see is not always what you get. As I look at *Superbase Professional 4*, I'm reminded of another database program - *Microfiche Filer*. MFF was something of a wolf in sheep's clothing. The interface was so simple that few people bothered to take a closer look and discover the power of that program. Now, the upgrade to *Superbase Professional* has hit the market. The face that *Superbase* presents, with its VCR-based controls, is simple. The two massive volumes that accompany this program, however, are a constant reminder of how much *Superbase* can do. *SB4* is an ambitious upgrade to the well-established *Superbase* series of database management programs.

## FIRST IMPRESSIONS

I elected to begin my tour through *SB4* with the tutorial, near the back of the database/text editor manual. The tutorial is reasonably thorough, but has a few annoying quirks. Lesson one, for example, instructs you to set a date format. Mention is made of the default format, but the user is not told until Lesson 4 that the default date format is the *only* format *SB4* will accept for data entry. Unless you're used to the European style of date notation, this is one of the first things you'll want to change. There are also inconsistencies. The tutorial lessons sometimes list fields the



A *Superbase* form with imported image.

way they appear on-screen - 'Interest\_rate.ACCOUNTS,' for example - and sometimes just by the the name of the field, without the suffix. At times, you'll have to follow DWIM rules: "Do What I Mean - not what I say."

If you stick with the tutorial, you'll be introduced to some of the power of *SB4*, and the ease with which it can be used. A true database management system does much more than simply maintain lists of items. It also allows you to manipulate stored data, perform various calculations, and rapidly retrieve specific information. With *SB4*, certain operations - field calculations, validation, and filtering operations - can be created with a succession of mouse-clicks. For example, suppose you have a field called "Annual salary." Rather than force the operator to enter this information, you can set up a calculation field. The calculation requester presents you with a list of fields, and a list of arithmetic operators. To construct a calculation, you click on a field, click on the desired operation, and so on. When you're done, that field will perform the calculations automatically, every time it is viewed.

## FORM DESIGNER

*SB4* includes a Form Designer, a potentially powerful tool that gives you an easy way to interact with a database, allowing

you to design the way a form or a screen looks. The look can be important - a well-designed screen helps to focus the operator on the task at hand, and cuts down on entry errors. Entry errors can (and will) happen, though, so Forms also offer validation. It doesn't end there, though. You can design checkboxes (ideal for "yes" or "no" entries) and pushbuttons, which execute DML (Data Management Language) commands. You can also add 'radio' buttons, which automatically insert a predefined value into a field. Radio buttons are mutually exclusive; when you need to choose one value from several (like hair color), radio buttons are ideal.

## A FEW SHORTCOMINGS

I said that the Form Designer was "potentially powerful." The usefulness of this tool will depend on your level of patience. It is poorly documented and can be hard to use. For one thing, there's no magnify option. If you need to precisely position an object, you'll need steady hands and a careful eye. An alignment tool or command would help, but there is none. Instead, you must use the crosshairs or the "snap-to-grid" option. The grid, unfortunately, has a rather coarse setting for a minimum. There's no "bring to front" or "move to back" command, either. Although there is a user-definable hierarchy for objects,

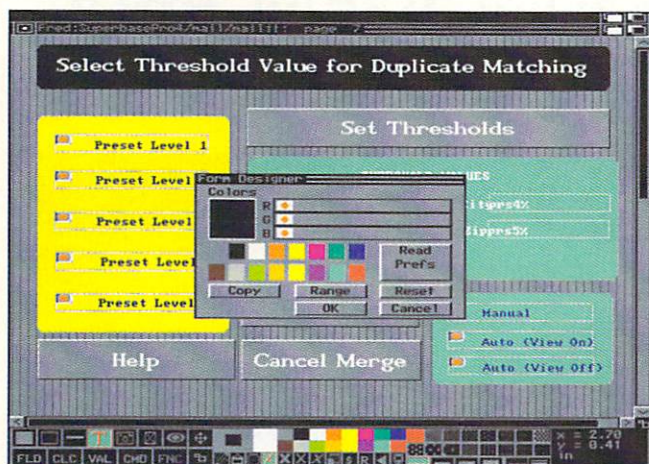
**Superbase  
Professional 4 v1.01**



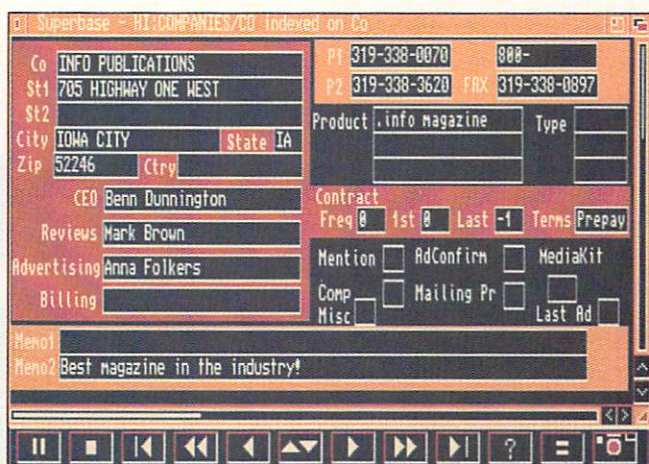
**\$495.00**

**Precision Software**  
8404 Sterling St.  
Irving, TX 75063  
214-929-4888





Editing a form with the *Form Designer*.



*.info's* utilitarian Companies database.

(fields go on top of text, which goes on top of images...) there is no provision for re-layering like objects. If you create one area on top of another, you're stuck with that arrangement.

When you use the Form Designer, you're on your own much of the time. There's only a short section of the manual devoted to it, with no index, and some things aren't mentioned at all. Object selection (and reselection) is something of a black art. Most of the time, it works as you'd expect. You click on a tool, click-and-drag an object, and release the mouse button; the object is placed or sized where you click. Usually, if you've double-clicked at some point in the chain of events, things get unpredictable. Succeeding clicks may or may not attach the previously-selected object to your cursor. Ending a sizing operation may activate the underlying object. If there were some way to abort an operation, like pressing the spacebar, these quirks might be more tolerable. Other annoyances: The "Rounded Box" tool is not documented in the Toolbox section, although it is mentioned elsewhere. The Box and Area tools, which are both represented by rectangular icons, are documented in the wrong order. Most users will discern which is which, but the manual should be a source of help, not confusion.

## PROGRAMMING

Then there's DML, *SB4's* Data Management Language. The commands are greatly expanded from previous versions and are well-documented. Some of the programs from the Examples disk are listed, and the DML commands used are fully explained.

Unfortunately, the examples sometimes betray the haste with which this program was released. *MailIt*, a mailing list utility, is one of the example programs, and it shows off some of the sexier features of *SB4*. Through *MailIt*, you can add, edit, and delete records, and print labels. It comes with a help utility for all its functions, and a "rules" function to ensure that the data is uniform. The code behind the *MailIt* program is broken down into functional modules, and each module is fully explained. I ran *MailIt*, and went directly to the Help screen. Unfortunately, when I selected "Exit Help," it locked up.

*Superbase Professional* is a port from the IBM world; this is both a Good Thing and a Bad Thing. It's good because *SB4* files on the Amiga are compatible with the Windows version. It's bad because some things work differently in the Amiga environment. In the previous example, my Amiga locked up when I clicked on an Exit gadget. If I had approached the program from a PC perspective, I would have hit "Q" or the Escape key. When I tried again after rebooting, the keystrokes did the trick. Similar elements of "PC-thinking" run throughout the manuals, examples, and the program. You'll need to keep this in mind.

## A HEAVYWEIGHT

*SB4* is the most powerful database manager available for the Amiga. Heck, it's among the most powerful database management programs available for any personal computer. Its shortcomings aren't so much that it can't do things. It can. It allows you to include graphics, large external text files, and even sound samples with

a record. It supports ARexx, imports *DBase* files, and even transfers files via modem. There are no arbitrary limits in *SB4* - you can have as many as a billion records per file, have an unlimited number of files open, and the files and records can be as large as your storage can handle.

The *Superbase* series has been the database management program for the Amiga for some time, and *SB4* has a lot of potential and delivers a lot of power. Unfortunately, v1.0 sometimes feels like a beta version that somehow escaped. The problems with it all appear to be relatively minor, bugs that might have been exorcised in the final month or so of development. In a way, it's a little like buying a hot, sexy, powerful new sports car and finding little dings in the body, a few chips in the paint, and some snags in the upholstery. It's still a hot car, but you want it to be perfect!

Precision Software, the creators of *Superbase*, have been purchased by Software Publishing Corporation, one of the largest IBM/PC software developers. The American support crew from Precision, based in Texas, is still active. If Software Publishing Corporation is serious about supporting the Amiga version, and if development continues, *SB4* will prove to be an exceptional product. *SB4* has a ton of features, and can do practically anything you ask of it.

Editor's Note: At presstime, Precision delivered a 'bug-fix' update version 1.01 of *SBPro4* to the *.info* offices which addresses most of the problems Jim reported. His rating has been upgraded to reflect this update.



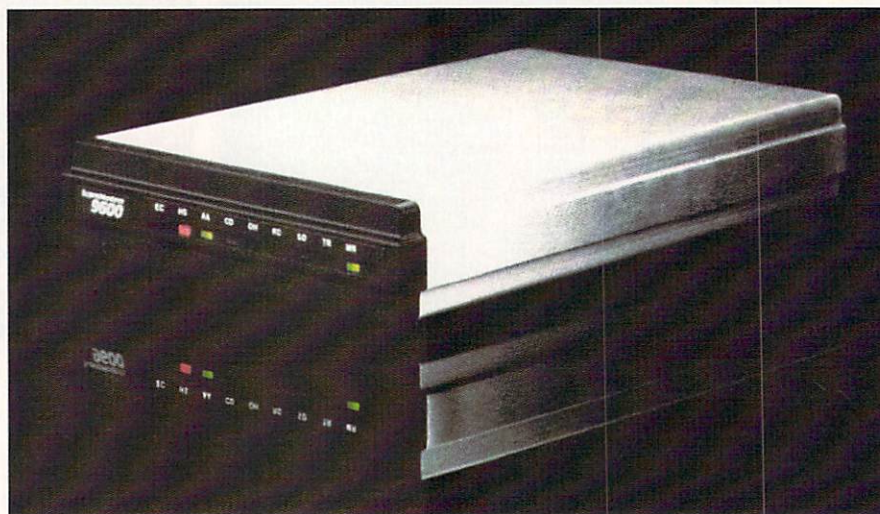
# SUPRAMODEM 9600

by Mark R. Brown

I remember my first month of telecommunicating way back in 1982. It was in the early days of CompuServe, and modems ran at 300 baud. That first month I managed to rack up over \$300 in CompuServe charges, plus another \$400 in long distance fees. But I was hooked, even though the screens crawled by at much less than my normal reading rate.

A couple of years later, I graduated to a 1200 baud modem, and that's where I've been stuck ever since. I never did get that 2400 baud modem I wanted. Instead, I've skipped right ahead to the *SupraModem 9600*.

9600 baud telecommunications is addictive. You can actually afford to download entire Fish Disks at those speeds. It's wonderful. My only problem has been finding lines that support such high speeds. Tymnet and SprintNet only go up to 2400 baud, so my BIX and Portal accesses - which are through those services here in Iowa City - can't go beyond 2400 baud. CompuServe has over 130 direct 9600 baud nodes around the country, but they're all in "major population areas," which for some reason doesn't include Iowa City. I could dial up their direct 800 number, but with a \$9/hr. surcharge, I think not. GEnie has a few 9600 baud access numbers (with a surcharge) but most of them are in the big cities, too. There are some private BBSs I could dial at 9600 baud, but they're all long distance. The only local 9600 baud line I have access to is the University of Iowa's computer, so that's where I've been hanging out. Fortunately, the ISCA BBS on the U of I computer has fantastic Amiga support, including all the Fish Disks online. If I



*SupraModem 9600* or why I downloaded the complete Fred Fish collection.

didn't already have all the Fish Disks on floppy, I think I could justify the cost of the *SupraModem 9600* just on the basis of quick access to all of that free software. (ISCA is accessible via anonymous FTP on InterNet: isca01.isca.uiowa.edu, 128.255.16.175)

For those of you into technical specs, the *SupraModem 9600* supports CCITT V.42bis+, which includes MNP 1-4 and LAPM error correction, and MNP 5 and BTLZ data compression. It incorporates a full set of Hayes-compatible commands and functions, the most important of which are, as far as I'm concerned, autoreliable and automatic rate connection. These allow you to leave your telecom software set to 9600 baud and the modem will automatically switch to the highest available baud rate, kicking in the proper error correction mode automatically. I like it.

One quick note on the data compression modes: they can speed up the transfer of many files, as they perform compression and decompression on the fly. But if you're modeming compressed data like .LZH or .ZOO files, the additional algorithmic manipulation can actually *slow down* data transfer. So don't expect miracles. Generally speaking, file compression of any kind only works once.

Did I have problems setting up the *SupraModem 9600*? Of course. There's

always some unexpected glitch when you plug in new hardware. I got lots of non-ASCII garbage on my screen the first few times I went online, until I stumbled upon setting the "Strip 8th bit" option in my terminal software (Willy Langfeld's excellent PD term package *VLT*). I'd never had to do *that* before, and still don't quite understand why that setting had to change. Anyway, it fixed things. I also had to dig up a new local SprintNet access number for 2400 baud, since the one I was using would go only to 1200. And, of course, that required a new log-on key sequence, something they don't tell you up front. One call to SprintNet tech support had me up and running in minutes, though. Fortunately, the *SupraModem 9600* itself performed flawlessly. (If you're interested in seeing how it stacks up against eleven other 9600 baud modems, there's an excellent head-to-head comparison in the October issue of *Byte* magazine.)

If you're out in the boondocks, you might just as well save your money and buy the *SupraModem 2400* instead. You won't be able to access the networks at more than 2400 baud anyway. But if you live in a "major metropolitan area" and have access to 9600 baud lines, by all means consider this excellent modem. It's solidly built, the docs are good, and it's very reliable. What more could you want? ▼

## SUPRAMODEM 9600



**\$699.95**

**Supra**

**7101 Supra Drive SW**

**Albany OR 97321**

**503-967-9075**



## by Mark R. Brown

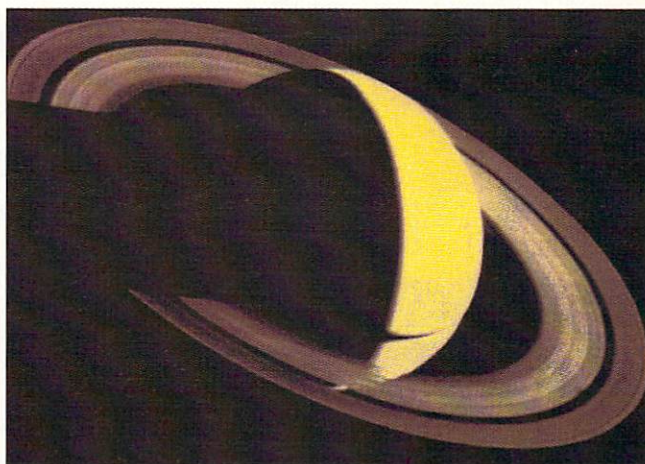
So begins Douglas Adams' *Hitchhiker's Guide to the Galaxy*, and so begins the user's manual for Virtual Reality's *Distant Suns 4.0*, a program that helps you get a perspective on all that space. In fact, *Distant Suns* lets you squeeze it all down so that it fits inside your Amiga. In the process, the universe becomes much more comprehensible. Which, I suppose, makes *Distant Suns* 'educational software.'

But 'educational software' has, unfortunately, come to mean 'boring software,' and *Distant Suns* is anything but. It is, in fact, a microcosm - the universe in a fishbowl. And you get to play God.

For example, when the solar eclipse occurred on July 11 it was cloudy here in Iowa; we couldn't see it. It would only have been partial, anyway. So on that day I booted up *Distant Suns* and watched the eclipse in real-time from a clear vantage point in Hawaii, just as it happened.

*Distant Suns* has allowed me to view the Eastern sky from Bethlehem on December 25, 1 BC. (Was Saturn the 'star' that the wise men saw?) I have seen the configuration of the stars at the moment I was born, with the sun in Leo. I know that if you stand on the surface of Mars at noon on New Year's Day, 2101 AD, the earth will be overhead in the constellation Taurus, no doubt invisible in the dim red glare of the midday sun.

*Distant Suns* will do just about anything you'd think a planetarium program should




Looking back  
on Saturn,  
a digitized  
NASA Voyager  
image from  
Michael  
Smithwick's  
*Space Visions*  
auxiliary disks.

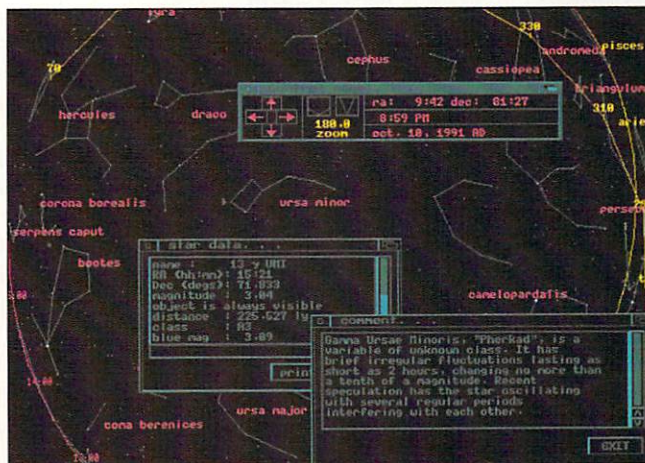
do. You can project the ecliptic, the horizon, the equator, star names, constellation names, constellation outlines, planet names, deep sky objects, and a plethora of other information on the night sky, or you can simply look at the stars. You can adjust the view for star twinkle, twilight, or the presence of city lights. Ephemeris information is available, as well as star data. Frankly, *Distant Suns* is so complete, I can't think of a single thing I'd like to see added.

The user interface is wonderful, with pull-down menus, information windows, alternate screens, and gadgets galore, all of which appear and disappear at such appropriate times you'd swear the program was reading your mind. The mouse can be used to center the screen, zoom, or identify objects - your choice. The 'What's Up' screen instantly informs you of the phase of the moon, sunrise and sunset times, which

planets are currently visible, etc. If you want to find, say, Jupiter, all you have to do is select 'Search Solar System' from the menus and pick Jupiter on the scrolling list that appears. There are, as they say, more features than it is possible to mention.

*Distant Suns* has a built-in IFF viewer and comes with a disk of digitized space images that can be indexed to the screen display. Click on Saturn, and up pops an information window; click on a button in the window, and up comes a digitized IFF image of the planet. Twentyfive additional NASA image disks - along with an installation disk - are available in Mike Smithwick's 'Space Visions' add-on series (\$90.00 for the set).

I can't think of any more superlatives. Go buy *Distant Suns 4.0* and give it to yourself for Christmas. It's wonderful. 



*Distant Suns 4.0*  
identifies a  
star in the  
constellation  
Ursa Minor,  
the 'Little Dipper'.



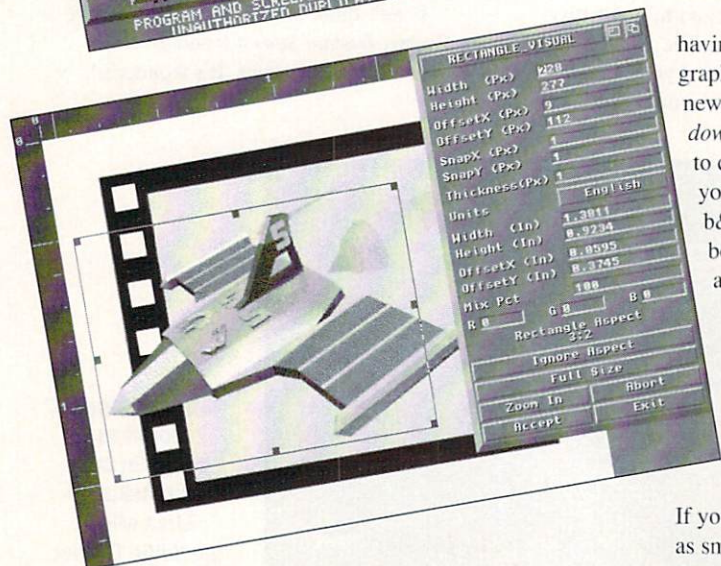
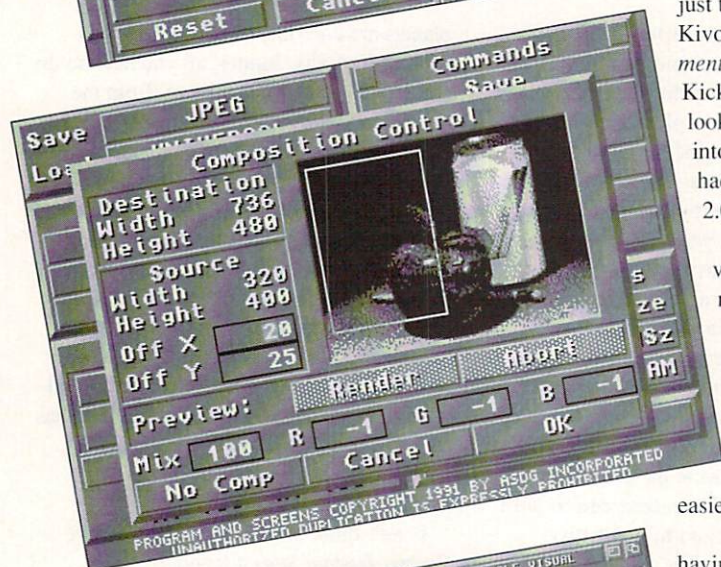
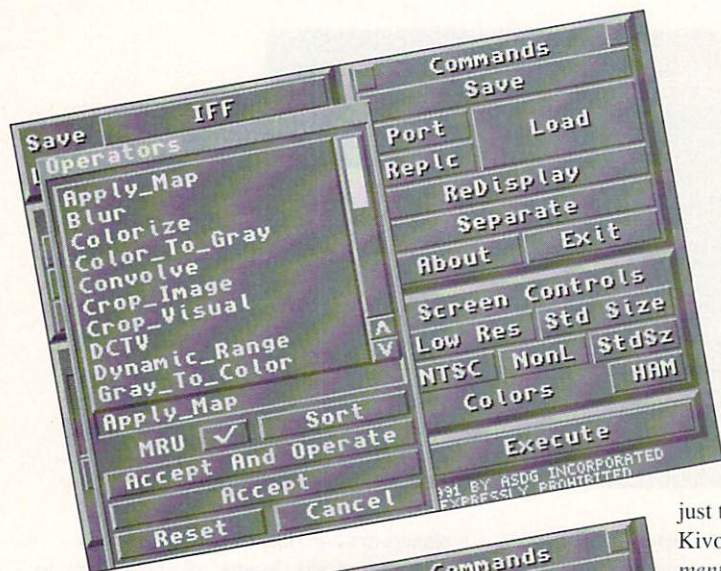
**\$99.95**

**Virtual Reality Laboratories**  
2341 Ganador Court  
San Luis Obispo, CA 93401  
805-545-8515



# Art Department Professional 2.0

by Mark R. Brown



## Art Department Professional 2.0

Preview

\$299.00

ASDG, 925 Stewart Street,  
Madison, WI 53713, 608-273-6585



kay, so I admit it. I've been putting off installing Kickstart 2.0 in my Amiga. I kept telling myself I was just too busy to pull everything apart and plug in that ROM. Then Perry Kivolowitz, the president of ASDG, sent us a beta copy of *Art Department Professional 2.0*. "It takes advantage of lots of nifty routines in the Kickstart 2.0 ROM," he said. I loaded it up on my 1.3 machine, and it looked good. There were some new features. Nice. Then we loaded it into Benn's 2.0 machine. Wow! New scrolling lists! New features! I had a screwdriver to my machine in minutes. Now I'm running an all-2.0 system - both Kickstart and *Art Department Professional*.

So what's "New and Improved" in ADPro 2.0? Lots! The most visible changes involve the friendlier user interface, in the form of new WYSIWYG editing screens and the aforementioned scrolling lists. The lists replace the "click-and-step" gadgets formerly used to step through image manipulation tools, screen format selections, and dithering choices. These save a lot of time. 'Crop,' 'Rectangle,' 'Text,' and 'Tile' now let you work interactively on a wonderful WYSIWYG 'Visual' editing screen, which takes the guesswork out of using these functions and makes them much easier to use.

The new "universal" loader is also a great time-saver. Instead of having to manually pick a loader, *ADPro 2.0* can auto-detect different graphics formats, picking the proper loader automatically. There are new loaders/savers for QRT format files, 24-bit PCX files, and the Windows-compatible BMT format. A new PostScript saver lets you output to color or b&w PostScript devices. A 'Preferences Printer' saver lets you print to a color preferences printer with true 24-bit output, or to a b&w printer in 8-bit grayscale. The output simply has to be seen to be believed. And there's no limit to the size - you can print posters as big as you like.

But the big loader/saver news is JPEG. JPEG is a file compression algorithm that is all the rage in the Mac and PC universes. In fact, people over there are paying a thousand bucks or more for software and hardware that will compress and decompress graphic files in JPEG format. *ADPro 2.0* just throws it in for, as they say on TV, "one low, low price!" With JPEG, you can easily compress graphics to 1/20 their original size without any loss of data. If you're willing to settle for some loss of detail, you can reduce files to as small as 1/100 of their original size (see next page for details). What this means is that you can now easily squeeze forty 24-bit images onto a



single Amiga floppy disk! Of course, for the time being you will have to use *ADPro 2.0* to read these files back in and convert them to standard IFF for use in other programs, since no other Amiga software directly supports JPEG compression.

One of *ADPro 2.0*'s most visible new features is its 'Convolve' operator, which actually gives you *hundreds* of special pixel-averaging effects from blurs to sharpens to woodcut and embossed leather effects. Over 20 effects were included on our 'beta' disk, and you can create, save, and load your own as well.

The new 'Text' operator lets you add text interactively to your screens using any IFF font. *ADPro 2.0* even offers direct CompuGraphic scalable font support. Included are special features such as outlines and embossed lettering. It's great for adding titles or picture captions, or for making slides.

What else? Well, there's new support for *DCTV* and *HAM-E*. There's a new, fast 'Halve' operator. The program will now grab pointers. There's a new 4-color gradient backdrop generator that's really nifty. And so much has been spiffed up, cleaned

up, sped up, or otherwise changed that it's hard to keep track.

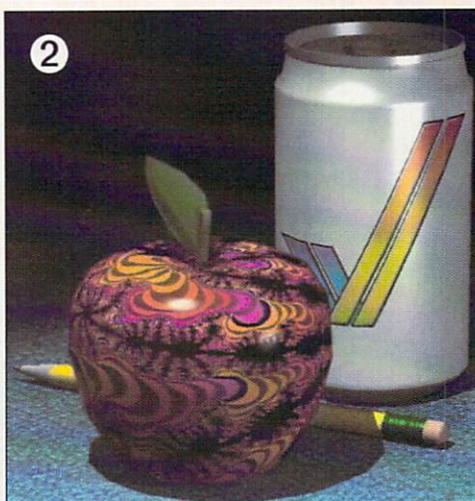
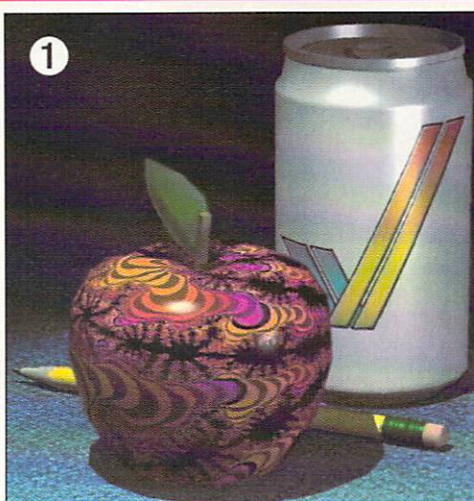
And, though we have yet to see it, the new manual may well be one of *ADPro 2.0*'s best features - ASDG is adding tutorials that explain in layman's terms what all of those wonderful functions actually *do*!

So get that extra RAM installed (*ADPro 2.0* requires at least *two* megs of RAM, and four megs or more are recommended) and run, do not walk, down to your Amiga dealer and pick up a copy of *Art Department Professional 2.0*. It should be available by the time you read this. ▼

## JPEG COMPRESSION

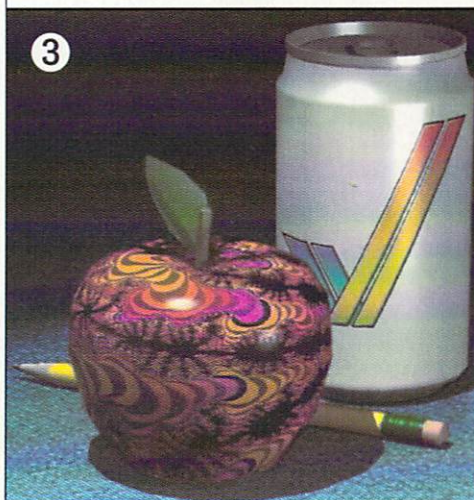
JPEG compression is an interesting beast - a set of compromises. The more detail you are willing to sacrifice, the greater the compression you can get. The JPEG file size is always much less than the original, even if you sacrifice no detail at all. However, when you rebuild an IFF picture from the JPEG compressed file, the resulting file seems to end up every bit as large as the original - maybe even larger - no matter what the JPEG quality. And, of course, if you try to compress a JPEG file, the odds are good that you won't get much additional compression, as the 'JPEG.LZH %' column in our table shows.

The original 24-bit IFF file used for these comparisons was a 513x477 *Sculpt 3D* raytraced image used on the cover of *.info* #36. The 'JPEG %' column indicates the *ADPro 2.0* JPEG 'Quality' setting used when saving in JPEG format. 32% is the default setting, 1% is maximum compression, and 100% leaves all detail intact. 'Save Time' is the length of time required to save a file to hard disk on our test system (an A2000 with Commodore A2320 25MHz 68030/68882 accelerator and A2091-controlled 40 meg Quantum hard drive - your mileage may vary). 'File Size' is the approximate size of the file in kilobytes. 'File %' indicates the size in relation to the source file. 'Rebuilt Size' indicates the size of the image file after being reconstituted from JPEG format back into 24-bit IFF format. 'Rebuilt %' indicates that file's size in relation to the original source file. 'JPEG.LZH Size' and 'JPEG.LZH %' indicate the actual and relative size of the JPEG file after compression with Paolo Zibetti's public domain file compression utility *Lharc v1.30*.



### JPEG COMPRESSION RESULTS

|   | File Format | JPEG Set % | Save Time | File Size | File % | Rebuilt Size | Rebuilt % | JPEG.LZH Size | JPEG.LZH % |
|---|-------------|------------|-----------|-----------|--------|--------------|-----------|---------------|------------|
| ① | 24IFF       | ---        | :17       | 497K      | 100%   | 497K         | 100%      | 367K          | 74%        |
| ② | JPEG        | 100%       | 1:24      | 87K       | 18%    | 512K         | 103%      | 86K           | 99%        |
| ③ | JPEG        | 32%        | 1:18      | 45K       | 9%     | 508K         | 102%      | 44K           | 98%        |
| ④ | JPEG        | 1%         | 1:10      | 7K        | 1%     | 469K         | 94%       | 4K            | 60%        |

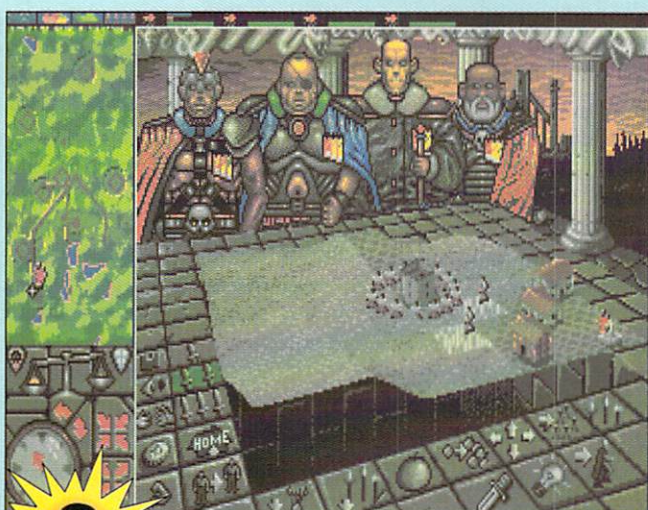






1

*Lemmings*, by Psygnosis




2

*Powermonger*, by Electronic Arts



5

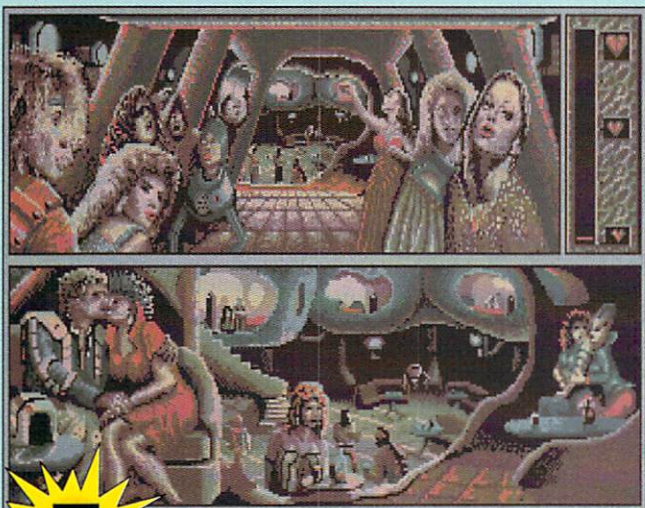
*Elvira*, by Accolade



**TOP  
10  
GAMES**

*.info's* gaming fiscal year has closed once again, and we've taken a look back over what we've played over the past twelve months. Here are the best of 1991.

- 1 Everybody, and we mean *everybody*, is playing *Lemmings*, talking about *Lemmings*, making jokes about *Lemmings*, and having great time doing it. There hasn't been a game this popular since *PacMan*.
- 2 Megalomania made entertaining, *Powermonger* took the concept of simulation to a new plane of existence.



7

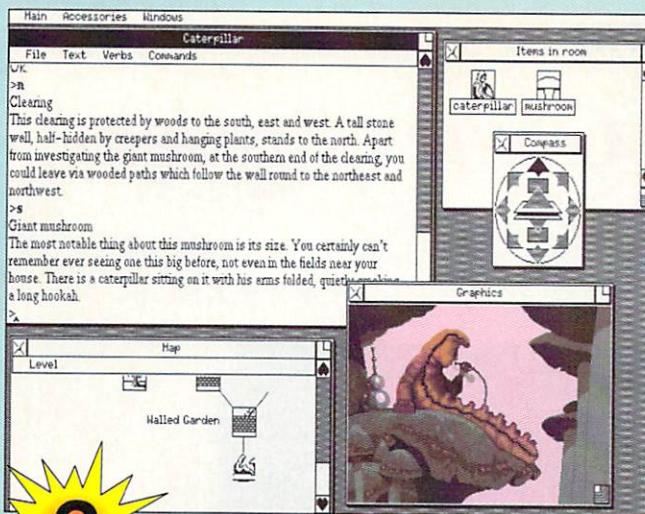
*B.A.T.*, by UBIsoft



8

*Thunderstrike*, by Live Studios





3

*Wonderland*, by Virgin



4

*Obitus*, by Psygnosis

- 3 Text adventuring given a revitalizing facelift, *Wonderland* let us get inside Lewis Carroll's classic without taking unwarranted liberties with it.
- 4 *Obitus* showed us what graphic adventuring can be in the hands of masterful designers and programmers.
- 5 *Elvira* was shocking for two reasons: horror-movie graphics and its unexpected high quality.
- 6 *Speedball II* proves that sequels really can be better than the originals.
- 7 A darkly cyberpunk atmosphere gave *B.A.T.* a unique feel we loved.
- 8 We flew *Thunderstrike* until our arms ached and still went back for more.
- 9 *Vaxine* moved smoother and better than any arcade game we played last year.
- 10 The third Psygnosis game on the list, *Atomino* is obsessive and addictive.



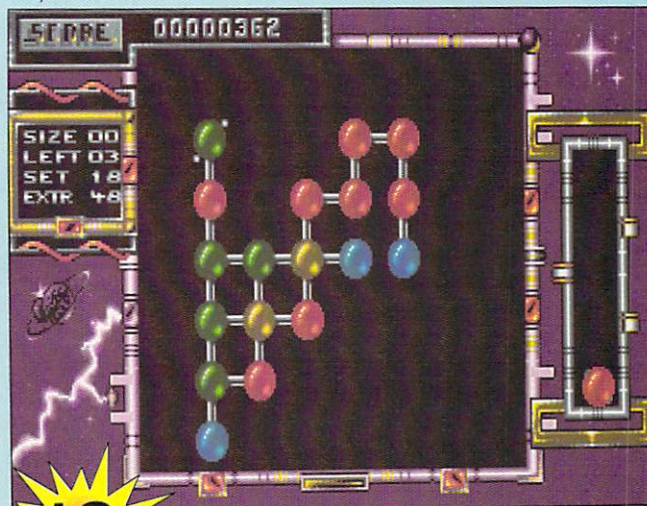
6

*Speedball II*, by Konami



9

*Vaxine*, by US Gold



10

*Atomino*, by Psygnosis



# Games Past, Games Present, Games Future



The annual Top Ten bloodletting is over and it was surprisingly painless this year. Benn and I generally inflict a few minor wounds and one or two major ones on each other when we have our yearly "discussion" on which entertainments go on the list and where, but this time we were mostly in agreement. Of course, there weren't as many to choose from as in past years, but the titles that did wind up on the list can certainly hold their own with those on past lists. To fill things out a little and give you a better idea of what we keep playing, we thought we'd print the second ten here (they're in alphabetical order):

|                            |                 |
|----------------------------|-----------------|
| <i>Carthage</i>            | Psygnosis       |
| <i>Centurion</i>           | Electronic Arts |
| <i>Hoverforce</i>          | Accolade        |
| <i>Monty Python</i>        | Virgin UK       |
| <i>Nobunaga's Ambition</i> | Koei            |
| <i>PGA Tour Golf</i>       | Electronic Arts |
| <i>Pick 'N Pile</i>        | UBISoft         |
| <i>Stormlord</i>           | Spotlight       |
| <i>Team Yankee</i>         | Readysoft       |
| <i>Wings</i>               | Cinemaware      |

Probably the most significant conclusions that can be drawn from the lists is that nearly all of the games are European in origin and Psygnosis is still the dominant force in Amiga gaming. *Lemmings* is the most popular in the company's history, and one of the most popular games ever. As of this writing, 200,000 copies have been sold, of which 70,000 were Amiga. (Just for reference, an Amiga game is considered a monster hit if it sells 20,000 copies.) Commodore has even started bundling the CD *Lemmings* with all the new CDTV units. Never content to stand still, Psygnosis is also working on a number of new releases, which is a perfect segue into some reviews and previews:



Hegor is back in Psygnosis' *Barbarian II*

## LEANDER

### Preview

Psygnosis

29 Saint Mary's Court  
Brookline, MA 02146  
617-731-3553

Another arcade adventure, *Leander* is distinguished by multi-level parallax scrolling, 50 fps animation, and trademark Psygnosis graphics. Set on three different worlds, there are 22 levels to hack your way through in order to rescue the obligatory kidnapped princess. The game also recognizes that not all players are joystick wizards and offers different difficulty levels along with passwords so you don't have to start at the beginning every time you boot up.

## BARBARIAN II

### Preview

Psygnosis

29 Saint Mary's Court  
Brookline, MA 02146  
617-731-3553

My biggest regret these days is that I've only been able to play the demo version of *Barbarian II* (and I've gone through the whole demo several times), though the

release should be available by the time you read this. It continues the hack and slash adventures of Hegor the Barbarian, but the difference between this sequel and the original shows how far Psygnosis has come. This one uses two-layer parallax scrolling coupled with very fine animation and perfect sound effects (the first thing you hear is the call of a loon and it's so well done that Megan came running in to see if I was keeping waterfowl in my office again). The play, at least in the demo, is fairly easy, but challenging enough to make you want to keep going.

## ATOMINO



Psygnosis

29 Saint Mary's Court  
Brookline, MA 02146  
617-731-3553

I held off reviewing *Atomino* in order to include it in this issue. (All right, I admit it - I couldn't stop playing long enough last issue to write the review. Wanna make something of it?) The game presents you with a square work space and a dispenser of atoms which you have to put together into molecules. Each atom has a valence of one

Incredible



Very Good



Average



Poor



Drek







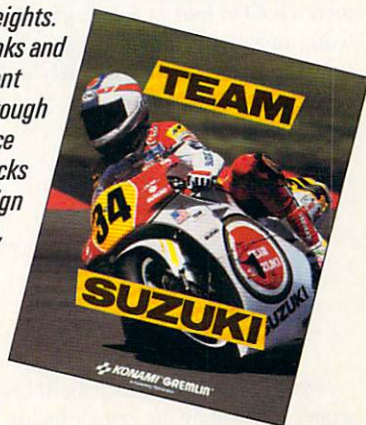
Available Fall 1991  
for MS-DOS™ & Amiga.™

*"Chase top speed and don't make rookie mistakes. The pack of 7 other Grand Prix racers are right there to dismiss you to last place at the rumor of a lapse in concentration. Keep the hounds at bay. Never look at the turn; stay focused 10 yards ahead and exit hard."*

# Two Wheeled Flight Sim.

*"It's a simple sport; just get around the racetrack fast."*

*Team Suzuki takes you on an over-the-handlebars, 1st person racing tour of 32 Grand Prix tracks around the world. You'll pilot 3 classes of pure thoroughbreds, from the nimble 125cc's, the relentless 250cc's, to the 500cc heavyweights. Catch your hard banks and deep turns on Instant Replay and from 6 tough camera angles. Once you've tried the tracks in practice mode, sign up for a single race, intense training or... the whole Grand Prix season. Welcome to the circuit, rookie.*



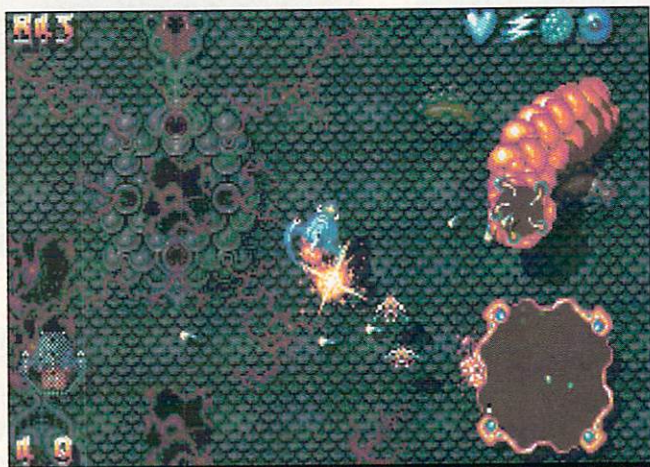
**KONAMI GREMLIN®**  
A Publishing Partnership

SUZUKI is a registered trademark of Suzuki Motor Corporation. ARAI is a registered trademark of Arai Hiroaki Shoten Co., Ltd., Japan. ALPINE STAR and ALPINE STARS are registered trademarks of Alpine Stars S.P.A., Italy. Gremlin® is a registered trademark of Gremlin Graphics Software Limited. Konami® is a registered trademark of Konami Co., Ltd. © 1991 Konami Inc. © 1991 Gremlin Graphics Software Limited. All rights reserved. (708) 215-5111

Circle #116 on the Reader Service Card



Art Nouveau  
meets Killer  
Kreatures from  
Outer Space in  
*Amnios*



to four and they must be connected in such a way that there are no free electrons left. If you can manage that, then the molecule disappears and you move on to the next one. The game requires considerable planning and strategy, and it's also highly addictive. By the way, Psygnosis is sticking to their promise to eliminate on-disk copy protection; *Atomino* is hard drive installable.

## AMNIOS

### Preview

Psygnosis

29 Saint Mary's Court  
Brookline, MA 02146  
617-731-3553

*Amnios* is classic arcade shoot-em-up action played on a multidirectional scrolling playfield. The artwork is a sort of science-fiction Art Nouveau that is a little darkish, but sharply drawn and always interesting to look at. The scrolling is smooth and movement fluid, making the play satisfyingly frantic. The plot, which has you racing around rescuing tiny humanoids, isn't anything new, but any more I tend to look at arcade games as works of auditory and visual art. On that level *Amnios* succeeds extremely well; arcade games don't need plots. You can find the demo online.

## SPEEDBALL 2



Konami

900 Deerfield Parkway  
Buffalo Grove, IL 60089  
708-215-5100

If you liked the original, you'll love this sequel. Created by the extraordinarily talented Bitmap Brothers, *Speedball 2* is sub-

titled 'Brutal Deluxe.' It means it. The game of speedball (a combination of hockey, armor, pinball, and mayhem) has become so violent it has had to be moved underground. This version has more player attributes and other enhancements to make the play even more frantic, not to mention bloodthirsty. If you thought the original *Speedball* was fast-moving, wait 'til you see this one! The playfield (pitch) is bigger, but the automatic scrolling is so responsive you'll be reaching for the dramamine bottle in no time. The player animations have also been redone with more detail. Now when you give someone an elbow, you see it onscreen. *Speedball 2* is deliciously vicious, sort of like the Sex Pistols on steroids. It's also one of the most highly playable games to come along in quite a while.

Konami is certainly the up-and-comer in Amiga gaming. They've been publishing Amiga games in addition to their cartridge releases all along, but have been making a much bigger effort in recent months. Kon-



One of the  
custom boards in  
*Stratego*

ami has acquired the rights to the remaining Cinemaware titles, including *TV Sports Football 2* and *TV Sports Basketball 2*. I saw an early version of *Football* back before Cinemaware closed its doors and the new version has an extraordinary play editor that works something like a cross between a macro recorder and John Madden's electronic doodling. It looked good enough that the pros will probably be installing the game to work out plays with. Konami has also formed an alliance with British publisher Mirrorsoft and will be bringing in European titles, including *Space Wrecked* and *The Killing Cloud*. What we've seen from Konami lately holds a lot of promise for the future.

## STRATEGO



### ALTERED DESTINY



Accolade

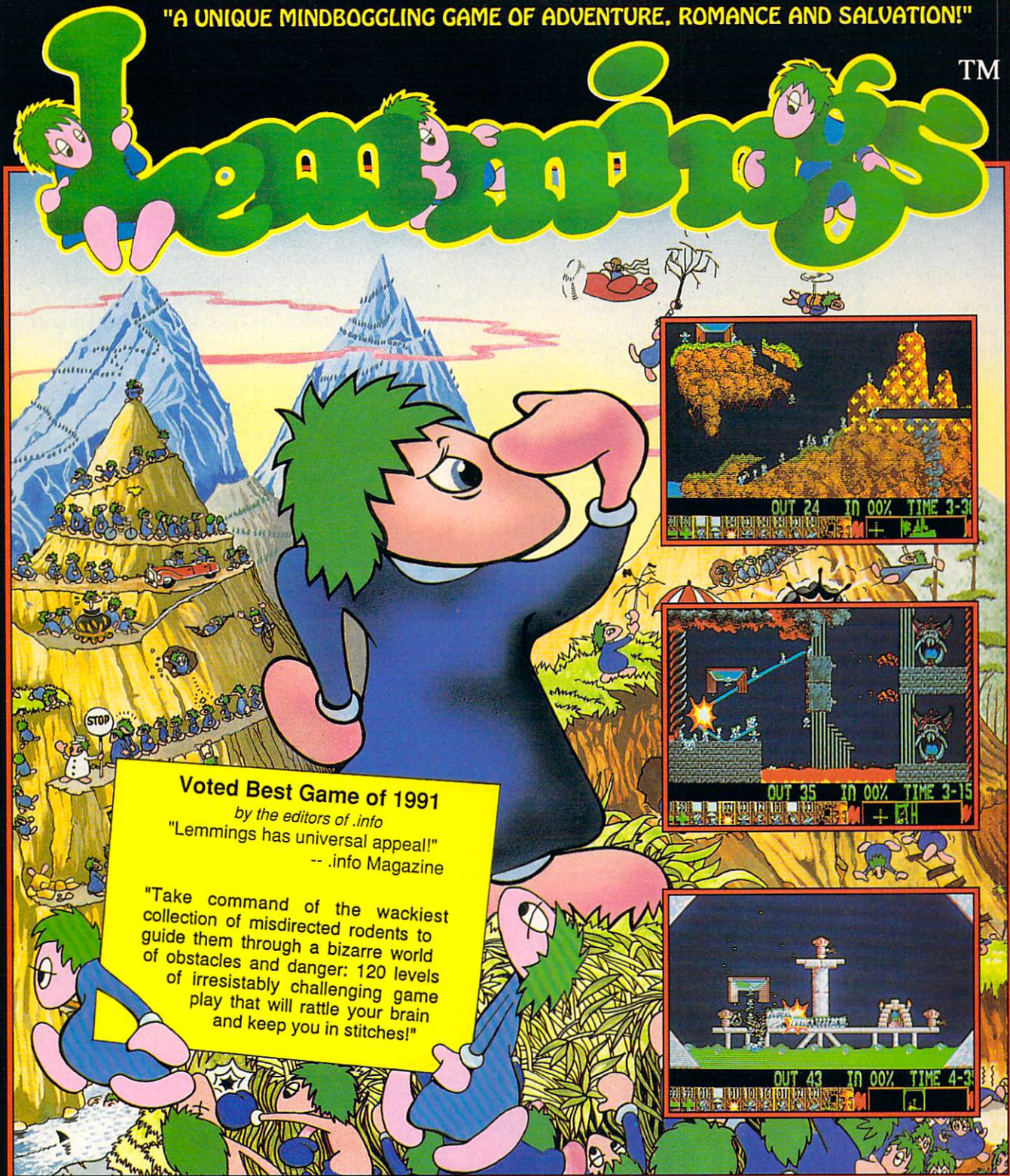
550 Winchester Drive  
San Jose, CA 95128  
408-985-1700

I've been applauding Accolade's Amiga efforts over the past year or so, and their *Elvira* occupies a prominent place on the Top Ten list, but the last two I've seen are disappointing. The problem with both the games has nothing to do with the design, but the execution. *Stratego* has been around as a boardgame for as long as I can remember and I spent lots of rainy Saturday afternoons playing it with the kid across the street. The game Accolade has released is *Stratego*, but it's a cheesy kind of *Stratego*. The graphics are barely legible, making it difficult to distinguish the pieces; they either needed to be better drawn or done in



"A UNIQUE MINDBOGGLING GAME OF ADVENTURE, ROMANCE AND SALVATION!"

TM



**Voted Best Game of 1991**

*by the editors of .info*

"Lemmings has universal appeal!"

-- .info Magazine

"Take command of the wackiest collection of misdirected rodents to guide them through a bizarre world of obstacles and danger: 120 levels of irresistibly challenging game play that will rattle your brain and keep you in stitches!"

**LEMMINGS™**

from

**PSYGNOSIS**

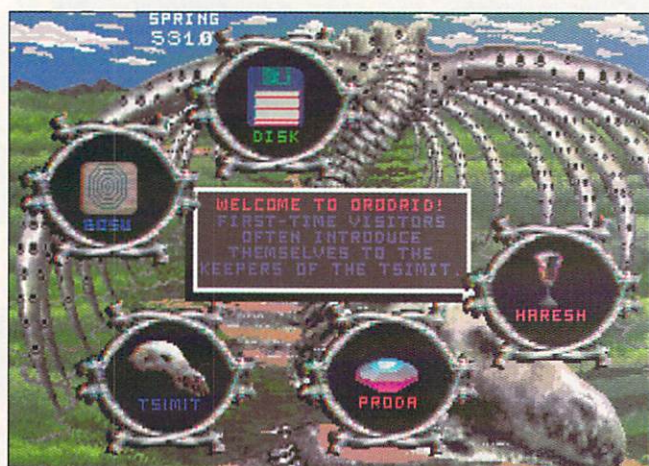
PC COMPATIBLE  
AMIGA  
ATARI ST  
(COMING SOON)  
CDTV & MACINTOSH

Available from your local  
dealer or call: (617) 739 7478  
PSYGNOSIS  
29 SAINT MARYS COURT  
BROOKLINE MA 02146

Amiga® & CDTV® are trademarks of Commodore Business Machines Inc. Atari ST® is a trademark of the Atari Corp. Macintosh™ is a trademark of Apple.

Circle #118 on the Reader Service Card





The main selection screen from *Knights of the Crystallion*

a higher resolution (in fact, the IBM graphics shown on the package look much better than the Amiga ones). The designers did include alternate graphic sets, but skimped on them: there are only three boards, one alternate set of playing pieces, and no provision for making your own. The play is pretty good and some of my old childhood strategies still worked. There are several pre-rolled setups to save you the time involved in setting up the board by hand. If you're a *Stratego* fan, you'll have to have Accolade's version, but be prepared for some disappointment. I'll still pull it off the shelf if I'm feeling nostalgic on a rainy Saturday afternoon, but it will never be as much fun as it should have been.

*Altered Destiny* is the second of Accolade's graphic adventures developed with Steve Cartwright's new system. Like *Stratego*, *Altered Destiny* could have been a killer of a game, but suffers a basic, and serious, flaw. In this case, the graphics are more than acceptable and have an interesting style, but each location takes just over 30 seconds to load - from a hard drive! I hate to even contemplate playing from floppies. I spent two hours trying to get somewhere in the game before I gave up in frustration. I love the premise of the game as it's set out in the lengthy intro: the hero is sucked through his TV screen into a strange and alien world where he has to save the universe. Author Michael Berlyn, the creator of *Infidel* and *Suspended*, has the good sense to handle the situation with humor and satire. I hope Accolade can fix the speed problem and reissue *Altered Destiny*. It's a shame that so much good effort is spoiled by a single flaw.

## KNIGHTS OF THE CRYSTALLION



**US Gold/Accolade**  
550 Winchester Drive  
San Jose, CA 95128  
408-985-1700

*Knights of the Crystallion* is a rarity, an Amiga game done in HAM mode. It's also very strange. There's a scenario about completing a series of tasks in order to put together a Crystallion, a mythical creature that's a kind of cross between Pegasus and the dragons in Anne McCaffrey's *Dragonriders of Pern* series. Only those who are able to complete a series of tests and challenges can form a bond with the beasts and become a part of the ruling class. Once you get past that, you're presented with six very diverse and very alien games. The biggest risks in inventing games out of whole cloth are first, making them comprehensible, and second, giving them sustained playability. Some sections of *Knights of the Crystallion*

are successful, but others don't quite come off, and because of them, the overall game lacks unity. This is not to say that the game isn't worth playing; it is a curious experience and not without its own peculiar allure.

One section is a game played by placing stones on a web in what may be described as a distant cousin to *Pente*; another is a maze with monsters to be avoided. The most involved segment is a trading game involving the families who live in the giant skeleton that serves as the setting for *Knights*. The least successful of the sections is a card game that has you pick pairs of matching cards while the cards are constantly moved around. It's more annoying than fun.

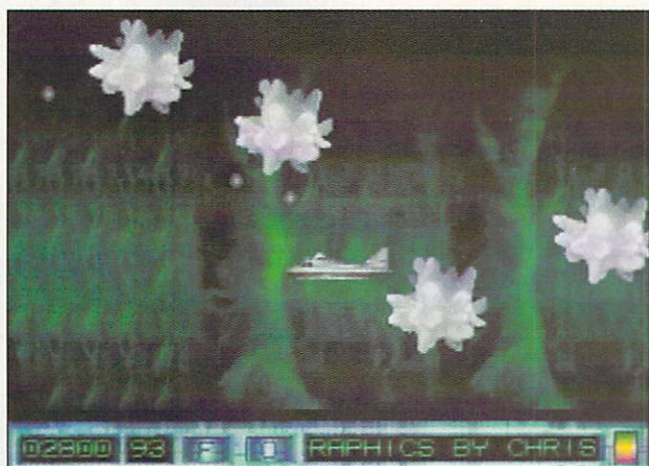
The graphics are suitably exotic, and there's little discernible HAM fringing, but I think they could have been more sharply rendered; some of the images are a little muddy. The soundtrack is excellent. If you like curiosities, take a look at *Knights of the Crystallion*. Despite its not quite coming together, I give it high marks for at least trying something different.

## FANTASTIC VOYAGE

### Preview

**Centaur Software**  
PO Box 4400  
Redondo Beach, CA 90278  
213-542-2226

I'd been wondering why no one had thought to produce a computer game based on *The Fantastic Voyage*, and then John Sievers of Centaur called to tell me they had acquired the license and had the game in development. From what I've seen and heard of it, it's going to be a stunner. In case you've somehow missed the bazillions



Trying to escape white blood cells in *The Fantastic Voyage*



Sullivan Bluth Presents

# SPACE ACE II: BORF'S REVENGE™

Sullivan Bluth Presents  
**SPACE ACE II:  
BORF'S REVENGE™**



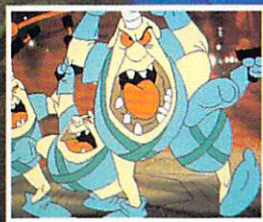
## **BORF'S BACK WITH A VENGEANCE...**

Just when you thought Earth was safe from the evil Commander Borf, his little henchmen, The Goons, have blasted Borf with the Infanto Ray a second time returning him to his full age - and evil. Lead Ace through battles with the goons and Borf's other allies until you encounter the evil Commander himself in the ultimate battle for the universe.

Space Ace II: Borf's Revenge brings the classical animation style of Don Bluth to the computer format featuring over five megabytes of full screen animation, digitized sound and new animations not included on the original Space Ace laser disc.

Available for IBM PC™ and Compatibles, Amiga™, Atari ST™ and Macintosh®.

IBM VGA Screens Shown



**READYSOFT**

ReadySoft Incorporated  
30 Wertheim Court, Suite 2  
Richmond Hill, Ontario, Canada L4B 1B9  
Tel: (416) 731-4175 Fax: (416) 764-8867

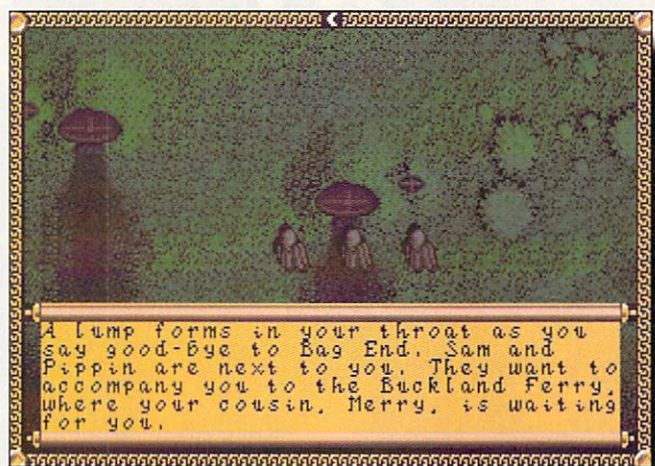
"Space Ace" is a registered trademark of Bluth Group, Ltd. ©1989 "Space Ace II: Borf's Revenge" is a trademark owned by Sullivan Bluth Interactive Media, Inc. ©1991 Sullivan Bluth Interactive Media, Inc.; used under license from Sullivan Bluth Interactive Media, Inc.; Character Designs ©1993 Don Bluth; ©1989 all audio, visuals and concept - Sullivan Bluth Interactive Media, Inc. ALL RIGHTS RESERVED; Programming ©1991 ReadySoft Incorporated.

Amiga, Atari ST and IBM are trademarks respectively of Commodore International, Atari Corporation and International Business Machines. Macintosh is a registered trademark of Apple Computer Inc.

Circle #106 on the Reader Service Card



"One Ring to rule them all..." - Interplay's version of *The Lord of the Rings*



of showings of the movie on cable, it's the story of a group of scientists who are super-miniaturized along with their hi-tech submarine (they can, however, only stay tiny for a limited time) and injected into the body of a Czech scientist who has discovered the secret of long-term miniaturization, but who has been critically wounded by Russian agents. His life can only be saved by the guiding the submarine to the bloodclot in his brain and destroying it. The graphics we've seen are absolutely beautiful, much better than anything in the movie, and in addition to travelling through veins and arteries, Centaur has added another dimension of miniaturization going down from the cellular level to the molecular. *Fantastic Voyage* looks like its going to be a *Fantastic Game*.

## LORD OF THE RINGS

### Preview

**Interplay**  
3710 S. Susan  
Santa Ana, CA 92704  
714-545-9001

I've lost track of how many computerized versions of Tolkien's classic I've seen. Interplay's version is certainly the best of the lot, using a top-down view a la *Faery Tale Adventure*. Interplay has plans to game-itize the entire trilogy (and, according to the company, maybe beyond), which should keep them busy for the next couple of decades. This first section, gets Frodo and company to somewhere around the mines of Moria, or little way into *The Two Towers*. The game itself is a role-player, though the hit-points and other mechanics are much less obtrusive than in many others of the genre. The graphics are very pretty, and I should give Interplay some sort of

award for the longest game intro I've ever sat through. It's very well done, with good artwork and fine music, and does a skillfully concise job of telling the story of what's gone on up until the time Frodo, Sam, Merry, and Pippin set off on their journeys.

## R/C AEROCHOPPER

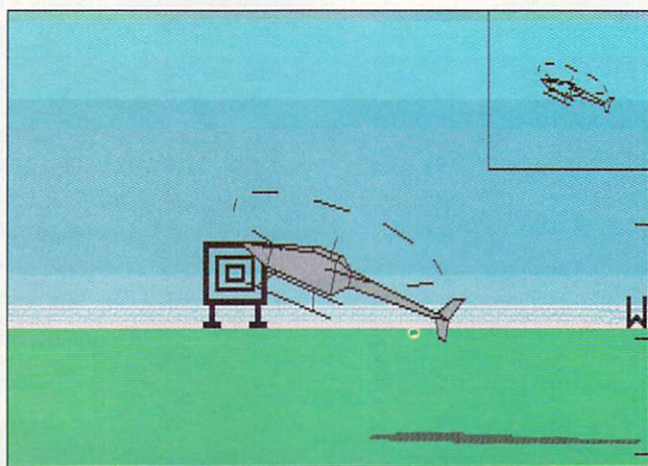


**Ambrosia Microcomputer Products**  
98 W. 63rd Street, Suite 371  
Willowbrook, IL 60514  
708-655-0610

The R/C part of the title stands for Remote Controlled. The package is about ten times bigger than most that pass through my office and it contains a converted radio remote controller, the kind used to fly model airplanes. The Futaba controller has had its antenna removed and replaced with a cable that plugs into your serial port. The box has two joystick-type sticks that control speed, rudder, and so on.

The software will let you choose from seven different aircraft (actually, there are seven images, which are used to represent 22 different planes and helicopters), and there are menus to let you change all kinds of parameters to configure the flight setup to what you want. The display runs at between 20 and 30 frames per second, and while there isn't any scenery as such, you can fly around 360 degrees and there are directional markers on the horizon so you can at least tell whether you're flying north or south. Basically, the effect is like standing in the middle of a large, flat field and flying the plane or chopper in circles. You can fly all kinds of aerobatics, too, and I've had more fun with it than I've had with most other flight sims.

I don't usually talk about price, but it is an issue with *R/C Aerochopper*, which retails for \$199.95. I did some checking with hobby shops and found, much to my amazement, that real remote-controlled planes go for about \$200 for electric models, \$300-\$400 for gas-powered. The big shock, though, is that remote-controlled helicopters are about \$1000. When you consider that there's a very good chance you're going to crash the thing the first time you fly it, that's a lot of money for a few minutes of flight time. If you're thinking about buying a remote-controlled aircraft, it seems like *R/C Aerochopper* would be a wise investment just to learn how to fly the things. Another thought is that hobby shops could install the *R/C Aerochopper* for both demonstrations and training. Since the system uses a real controller, the feel is very much the same as the real thing. On the other hand, *R/C Aerochopper* is a kick just as it is.



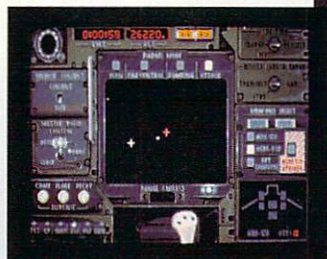
Flying a remote control helicopter in *R/C Aerochopper*



# BIG, BAD, AND ARMED TO THE TEETH.



Pilot's Station



Offensive Weapons Station



Electronic Warfare Station

## MEGAFORTRESS

BASED ON FLIGHT OF THE OLD DOG, DALE BROWN'S BEST-SELLING NOVEL

It's the enemy's worst nightmare: a nearly-invisible heavy bomber, carrying enough firepower to destroy the most heavily defended installation in the world.

Forget run-of-the-mill flight simulators. Megafortress is in a class by itself: a radically modified B52H Stratofortress, with radar-absorbing fibersteel skin and enough state-of-the-art sensory and weapons systems to jam and blast its way into any target on earth.

It's a huge, complex aircraft that demands attention to a dizzying array of tasks. Your mission isn't simply to fly Megafortress; your job is to deliver 200 tons of death and destruction across 5000 miles of unfriendly airspace and eliminate a specific, heavily-defended target, all the while keeping your location a secret. To succeed, you must master the *four* different stations that control Megafortress' systems.

You're not just a Pilot, responsible for takeoff and landing, mid-air refueling and other basic maneuvers. As Navigator you'll plot a course halfway around the world, keeping the mission on track; as Electronic Warfare Officer you're glued to a radar scope, hunting for threats, jamming signals, keeping the aircraft hidden; as Offensive Weapons Officer you have massive firepower at your disposal: air-to-air missiles, anti-radar missiles, and air mine rockets for defense, and a 3,000 lb TV/infrared guided glide bomb for the final attack.

With missions designed by Dale Brown, B-52 navigator and best-selling author, Megafortress isn't just another flight simulator; it's an adventure in the reality of strategic air assault *today*.



THREE-SIXTY PACIFIC, INC.  
2105 S. BASCOM AVE. STE. 380  
CAMPBELL, CA 95008  
408-879-9144

TO ORDER: VISIT YOUR RETAILER OR CALL  
800-245-4525 IN THE USA AND CANADA

### FEATURES

- Multi-position bomber simulation with Pilot, Navigator, Electronic Warfare and Offensive Weapons.
- Complete electronic counter-measures mirror current "stealth" technology.
- Multiple missions designed by Dale Brown in 3 different geographical areas: Iraq/Kuwait, eastern USSR, and USAF Red Flag training center.
- Arsenal includes air-to-air and air-to-ground missiles, anti-radar missiles, air mine rockets, standard high-explosive "iron" bombs, and a 3,000 lb TV/infrared guided glide bombs.
- Terrain guidance radar screens operating at realtime speed.
- Full 256 color VGA graphics in a 3D world with universal camera angles.
- Sound Blaster and AdLib sound.
- Package includes Dale Brown's bestselling novel, *Flight of the Old Dog*.

Circle #113 on the Reader Service Card



EA is about to release Argonaut Software's *Birds of Prey*



## FIGHTER DUEL

### Preview

**Jaeger Software**  
7800 White Cliff Terrace  
Rockville, MD 20855  
301-948-6862

This is the fastest flight simulator I've ever seen. The demo only has prop planes (Corsair and Zero), but it feels like flying a jet. The display is hi-res and there's no option for other resolutions, but it doesn't make any difference. The default screen colors minimize flicker (of course, with a flicker-free display, it's not an issue) and there are palette controls for tweaking the colors to suit your monitor and your taste. One of the reasons I don't spend much time with flight simulators is that they're usually slow enough that I get bored. That certainly isn't the case here. I can hardly wait to get my joystick on the release version of *Fighter Duel*. It should be on the shelves by the time this hits print.

## MOONFALL

### Preview

**21st Century Entertainment**  
56B Milton Park  
Abingdon, Oxfordshire OX14 4RX  
England  
0235-832939

The disk containing *Moonfall* arrived just in the nick of time for this issue and if I don't stop playing it and get this preview written, the production department is going to come after me with pitchforks. The game is in the *Starglider/Stellar 7* vein, though much easier to fly and with more of an arcade feel. The premise is to fly trading runs on a large moon for the gang of pirates you've been captured by. They pay well, but the missions aren't a day in the park,

either. Flying the game is easy and intuitive, leaving you free to worry about everything that's coming after you. If you're skilful enough and clever enough, you can eventually buy the whole moon. The solid-modeled graphics are swift, and in addition to the moon's surface, there are also lots of underground locations, including a pub. Very playable.

## BIRDS OF PREY

### Preview

**Electronic Arts**  
1450 Fashion Island Blvd.  
San Mateo, CA 94404  
415-571-7171

This is the long- and eagerly-awaited new game from Jez (*Starglider*) San's Argonaut Software. Designed by Christopher Humphries, and with a credits list that reads like a section of the Who's Who of British game programmers, *Birds of Prey* is, oddly enough, a return to classic flight/combat simulators, with mostly American planes.



Skimming over lunar volcanos in *Moonfall*

There are plenty of scenarios to keep you occupied, variable screen displays and viewpoints, and detail, detail, detail. *Birds of Prey* is scheduled for release before Christmas.

## BATTLE ISLE

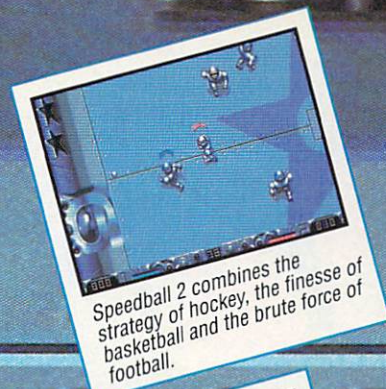
### Preview

**UBISoft/EA**  
1450 Fashion Island Blvd.  
San Mateo, CA 94404  
415-571-7171

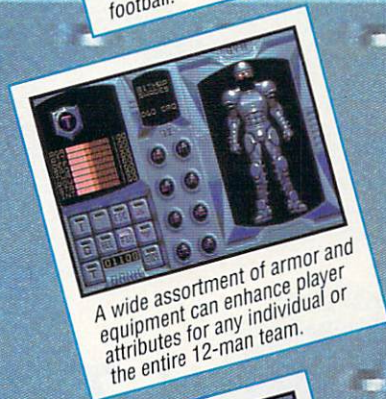
While I don't get much enthused about hex-grid wargames, I have to give UBISoft credit for coming up with one of the prettiest hex grids I've seen. In fact, the graphics are about the best I've seen in a wargame (and a lot of others, for that matter). The sound is equally well-done. The screen is divided in half vertically, providing two independently scrolling views of the playfield, where you can deploy your troops and wage war on your opponent, either computer or human. Using a joystick-controlled multifunction cursor, you can pull up information on weapons and inventory, as well as move and target the enemy. The game shows you what moves are possible and what enemies can be attacked, saving lots of trial and error in the learning process. The battle sequences pop up another window, showing your tanks and they proceed to trade shots with your opponent. Play is surprisingly quick for this kind of game and it's also easy to get into, making this ideal for those who are just starting out wargaming or are just thinking about it. There are 32 levels, each with a different map and scenario (the release will ship with maps of Europe and Iraq, too), and *Battle Isle* is much more playable than most hex-grid games I've seen.



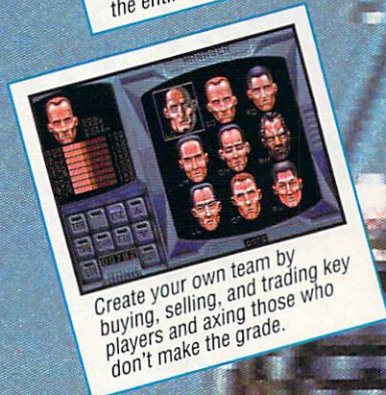
# Welcome to the Terror Dome.



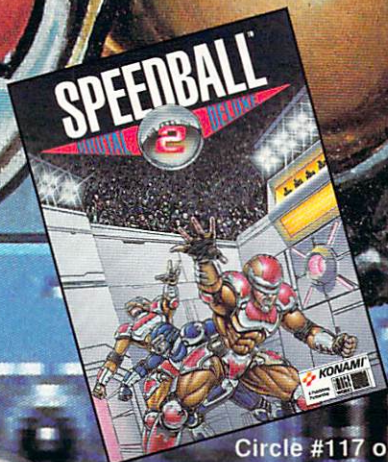
Speedball 2 combines the strategy of hockey, the finesse of basketball and the brute force of football.



A wide assortment of armor and equipment can enhance player attributes for any individual or the entire 12-man team.



Create your own team by buying, selling, and trading key players and axing those who don't make the grade.



In the 22nd century, there's no such thing as unsportsmanlike conduct. Because the only sport in town is Speedball 2. A vicious game of physical dominance, animalistic intimidation and reckless destruction.

But it will take much more than powerful play in the Terror Dome. You'll need to control player trades, roster changes and the acquisition of armor and equipment to turn your bunch of misfits into a well-oiled wrecking machine.

Speedball 2 is the sequel to the original, award-winning Speedball—now improved and upgraded to include:

- 16-Team League in Two Divisions
- Instant Replay of all Goals
- League, Cup, Practice and Knockout Game Modes for 1 or 2 Players
- New Player Attributes that Include Attack, Defense, Speed, Throwing, Stomping, Energy and Aggression

## Welcome to the Dome Rookie.

Available Fall 1991 for MS-DOS & Amiga

Speedball 2 Brutal Deluxe™ is a trademark of The Bitmap Brothers. Konami® is a registered trademark of Konami Co., Ltd. Image Works™ is a trademark of Mirrosoft Ltd. ©1990 Mirrosoft Ltd. ©1990 The Bitmap Brothers. ©1991 Konami, Inc. (708) 215-5111 All Rights Reserved.



Circle #117 on the Reader Service Card



# ProVisions

## ProVisions Contents

- ◆ **MultiMedia** . 38 Harv examines *Dr. Wellman* and *Scala*.
- **Audio** . . . . . 41 Bob reviews *Bars & Pipes Professional*.
- **Video** . . . . . 43 OJ puts *ShowMaker* through its paces.
- ▲ **Graphics** . . . 46 Brad referees: *Toaster Paint* vs. *DCTV Paint*.

## MULTIMEDIA

by Harv Laser

**H**uman health is a subject as broad in scope as any you are ever likely to explore. We're bombarded by the media almost every day with news about diseases and cures, medical tragedies and breakthroughs, and the rising cost of health care. And, let's face it, *all* of us have to deal with health problems at some time. We prefer to get plain English explanations about what ails us and how to cure it, and yet a visit to the doctor can still be a frightening experience for people of all ages, especially when he speaks that strange Medicalesse.

*Dr. Wellman* is a gentle "family medical advisor" with a wealth of easily understood information. Once past the incongruous (and unnecessary) "Disco 2001" theme music and informational screens, *Dr. Wellman's* main menu provides a launching pad to the disc's five main areas of exploration: personal health, travelling abroad, first aid, baby & child care, and an "emergency" alphabetical topic index to find any subject the fastest way. A section on sex facts and problems is password protected to keep children out until you're ready to admit them.

Each of these main fields branches off to menu selections of specific discussions about hundreds of common maladies and conditions. The format of each presentation is an illustration, often animated or with sound effects, atop a scrolling region of text which

**DR. WELLMAN \$79.95**



CDTV Publishing, 1200 Wilson Drive,  
West Chester, PA 19380, 215-431-9100  
(disc caddy included)

itself contains hypertext keywords for deeper definitions of specific medical terminology. *Dr. Wellman's* soothing British narration can be toggled off. As with most CDTV reference works, the remote controller's "A" button takes you into deeper levels; the "B" button takes you back up along the same path.

For a true at-home emergency, such as a possible pool drowning or an accidental electrocution, I'd personally prefer to rely on actual printed information, even that which is found in the front pages of any city's telephone directory. Although *Dr. Wellman* covers emergencies and first aid well, it can take three minutes or more to boot the CD and find your way to these sections, and then to the specific situation and what to do about it. These "golden minutes" cannot be spared in a real life-threatening emergency and you could hardly drag your CDTV out to a swimming pool or roadside accident. Instead, study the emergency and first aid sections at your leisure, with your family, so you'll know what to do in advance. If you took high school first aid and forgot most of it, *Dr. Wellman* offers a good refresher course.

*Dr. Wellman* is *not* a substitute for a real physician or clinic. Its information can be thought of as helpful and

Harv presents a  
CDTV family  
health guide, a  
slick but  
expensive  
presentation  
package, and a  
set of *AmigaVision*  
tutorials.



## 20/20 VISION: VOLUME 1 \$49.95



AmiGadget Publishing Co., P.O. Box 2521,  
West Columbia, SC 29171, 803-957-1106

enlightening, but it does *not* go into enough depth to use it for self-cures of serious medical conditions. *Dr. Wellman* won't prescribe specific brand name medicines or detailed therapy - he'll almost always advise you to consult your own doctor. This is as it should be.

The disc is simple to navigate. The cartoonish graphics are generally accurate, interesting, often humorous, but never gory or frightening. Except for the hokey intro music, the sound effects are a plus.

Anything we can do at home to educate us about the mysteries of modern medicine and our own health is usually a good thing, providing what we learn is based in fact. *Dr. Wellman* is a useful family-oriented product that can provide some of this knowledge. It's never preachy but can often leave you wanting to know more.

## 20/20 VISION: VOLUME 1

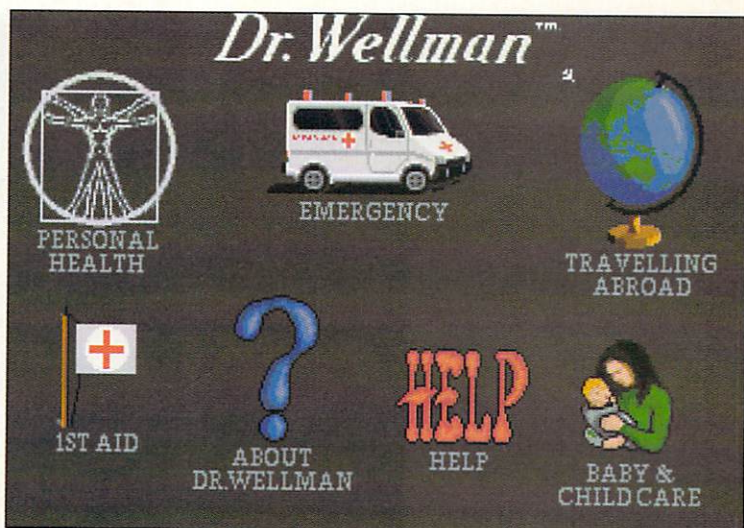
Dissatisfied with the tutorials supplied with *AmigaVision*, the creators of this package made their own. They've done a good job. This inexpensive product provides five beginner-level AV tutorial "classes" on one disk. In increasing order of complexity, they will teach you to use *AmigaVision* to play an animation, make a looping slideshow with sampled sound effects, build a loan calculator, create a note pad for text entry and editing, and develop a travel agent's database, all at your own pace. The demos require *AmigaVision* 1.31 or higher.

The sixty-page manual walks you step-by-step, building each project, and is easy to follow. Each tutorial's pieces (pictures, sounds, etc.) are stored on the package's single disk along with a finished ready-to-run version of the five projects. In case you goof up while building a tutorial flow, you can load in the completed version and see how it should be constructed or refer to each flow's complete printout in the manual. These give you the big picture and save you the trouble of printing them yourself. For a product that relies on its manual as much as this one does, the booklet is well illustrated, but the screen reproductions could be cleaner.

## SCALA 1.1 \$395.95



Great Valley Products, 600 Clark Avenue,  
King of Prussia, PA 19406, 215-337-8770



The main menu screen of *Dr. Wellman* for CDTV.

While these five *AmigaVision* flows won't win any awards, they're all good, solid examples that teach the basics of *AmigaVision* multimedia authoring, and help you learn your way around the software. Later on, you can use these flows or the concepts they've taught you as parts of your own larger projects.

## SCALA 1.1

GVP, known for its high quality Amiga hardware products, has dished up an excellent software package. *Scala*, the product of a Scandinavian design company named Digital Vision A/S, truly qualifies for the oft-abused moniker "professional."

*Scala* is a "presentation" system. With it you can quickly create beautiful and convincing multi-screen shows which include IFF pictures, brushes, text, and animations. There are no facilities to include sound or music of any kind in *Scala* presentations, its only major shortcoming. *Scala* output is geared towards RGB monitors, though you could certainly send them to tape for video use.

*Scala*'s user interface is superb. There are no pull-down menus; everything is handled via buttons, gadgets, and sliders and is presented with a custom font and many user-selectable color schemes. Although somewhat unorthodox looking, I quickly adapted to the fast and flexible file requesters.

The whole suite of software, or as much or little of it



**Scala truly  
qualifies for the  
oft-abused  
moniker  
"professional."**







Playing with text attributes in *Scala*.

as you want, is copied to your hard drive with an installation program that actually works the way it's supposed to. (I've seen way too many of these that didn't work right, if at all.) The hefty ring-bound and well-organized manual is divided into tutorial and reference sections, and copiously illustrated. It guides you in a friendly, often humorous manner.

Making a presentation involves loading in a background screen, selecting a font for titling, tapping your

text right onto the screen, and then embellishing everything with dozens of wipes and fades and transitions which can be applied to the background, the text, or both. You can change, move, or remove any element at any time. All changes can be undone or cancelled. All screen modes are supported, including HAM. *Scala* has no painting facilities of its own, but it does allow palette adjustments.

Presentations can be made user-interactive with on-screen buttons (made from brushes), or run automatically, hands-off. *Scala* offers more ways to customize and dress up text

and brushes than you can imagine. 3D effects, drop shadows, variable spacing, line spacing, multi-level text anti-aliasing . . . you name it, it's got it.

As you build a presentation, *Scala* writes a script. You never have to touch or view this ASCII script file if you don't want to. If you do, all possible commands are fully referenced and are in simple English. The newer 1.1 version adds ARexx support, ColorFont support, Work-Bench 2.0 outline font support, realtime screen buffering,

**CDTV Amiga keyboard  
adapter cable \$14.95**  
**(No rating. Hey, it's just a cable!)**  
Top Secret Devices, 1610 George  
Washington Blvd., Wichita, KS 67211

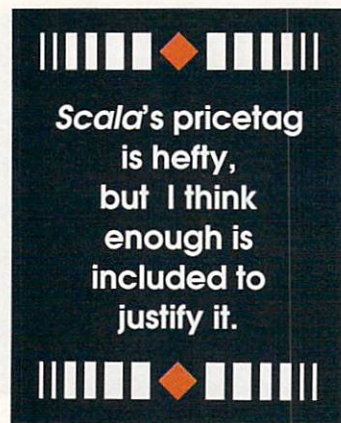
One of my favorite features is *Scala*'s ability to make a "run-time" disk from a presentation: with one mouse click, it'll copy all the required screens, brushes, fonts, and scripts to a floppy, and install it with DOS system directories and needed files, its freely-distributable player program, and a startup-sequence. Hand the disk to any one meg chip RAM Amiga owner and he can boot it and see your presentation without the need for *Scala* itself. Perfect to create something for branch offices or many stores without having to buy *Scala* for each of them. (Are you listening, Commodore? Why doesn't *AmigaVision* have this!?)

And here's a small but thoughtful touch: besides the warranty registration card, there's a second card for you to send back after you've used *Scala* for a while. Tell the publisher about problems or what you'd like to see added. (Are you listening, other Amiga software developers?)

*Scala*'s pricetag is hefty, but when viewed as an entire package of software, I think enough is included to justify it. Nine disks come in *Scala*'s box and they're crammed with gorgeous hi-res backgrounds of fabrics, nature scenes, moody drawings, wood and stone textures, high tech patterns, seventeen fonts in 44 sizes, and dozens of international symbol brushes. Although all the disks' backgrounds are 640x400 (non overscan) an ARexx script is included to automate scaling them up to full overscan using ASDG's *Art Dept. Professional*, and *Scala* does work fine in overscan modes.

### CDTV keyboard adapter cable

Well, it's not really a Top Secret Device. That's just the name of the company that makes this CDTV Amiga keyboard connector, model *CDKC-1000*. Due to the non-standard keyboard connector on CDTV's backside, you'll need something like this to use your Amiga 2000 or 3000 keyboard with CBM's multimedia machine. The 6" long, black cable simply plugs into CDTV's keyboard connector, then you plug your Amiga's keyboard cable into the other end of it and that's that. This cable can also interface CDTV to an IBM-XT compatible keyboard, but you'll need to purchase TSD's *KA-1 Keyboard Adaptor* along with the *CDKC-1000* to go that route.





**F**or most foolhardy souls who have waded into the swamp of the music business, the term "professional musician" seems like a contradiction in terms. "Professional" implies good working conditions, a measure of respect, and a living wage.

In the real music world, however, "professional" just means you don't share the stage with the bus boy; you aren't the bus boy; and you keep your tips.

Nonetheless, "professional" still suggests a high standard of excellence. Blue Ribbon SoundWorks accepted that burden when they revised their software, jacked up the price, and tacked that epithet onto the resulting MIDI sequencer: *Bars & Pipes Professional*.

Truth to tell, though, *Bars & Pipes Professional*... well, it just isn't. It's unique. It's brilliant. It's innovative. Like *Bars & Pipes*, it's one of the most versatile and expandable MIDI sequencers available for any computer. But compared to the features commonly available in high-end sequencers on other computers, it isn't really "professional."

High-end sequencers elsewhere, for instance, commonly include patch librarians or MIDI system managers. *Bars & Pipes Professional* barely supports SysEx messages. Top quality sequencers typically provide good - in some cases superior - support for synchronizing MIDI music to SMPTE time code for video and film work. *Bars & Pipes Professional* has SMPTE support but provides few hooks to link your compositions to real-time events. Even the PPQ (pulse per quarter note) of 192 isn't keeping the pace with current professional sequencer speeds of 384 ppq.

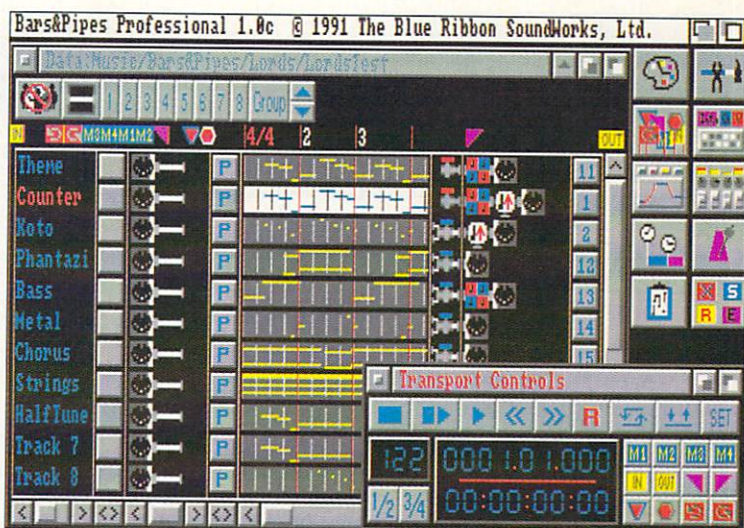
But putting *B&P Pro* in its place doesn't put it out of the running. Compared to other Amiga sequencers, this is an outstanding product if you want a graphically-oriented MIDI sequencer and can handle the hefty price.

## SCENE ON THE SCREEN

The screen display of the first *B&P* was best described as 'zany.' Quirky little shapes and bright colors were both fun and functional. I liked it; but apparently other musicians thought it was like sequencing in Toon Town. *B&P Pro* settles down with a grayed-out, squared-up interface consistent with the Workbench 2.0 look.

Unfortunately, when using flicker-free medium resolution on an A2000, things just don't fit. The Tape Transport controls, previously tucked up under the menu bar, now pop up in their own window, usually obscuring some vital piece of on-screen data. And those oddball little shapes that you clicked to summon features in *B&P* have now become big bruiser boxes that just pig-out on screen space.

If you're fortunate enough to have an A3000 or a 2000 with a flicker-free high-resolution display, life and the



*B&P Professional* sports a sophisticated but somewhat crowded screen display.

*B&P Pro* screen can be beautiful. The windows, the icons, everything, can be shuffled around to create a customized workspace. And new gadgets that collapse and expand windows make screens easier to manage.

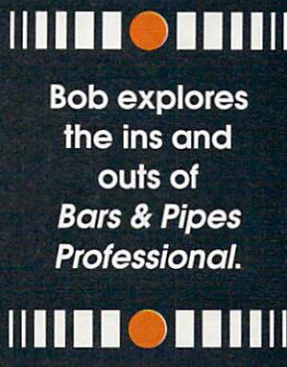
*B&P Pro* is just as mouse-bound as *B&P*. Sorry. There just aren't enough keystroke equivalents. I like to go from keyboard to keyboard during a brisk sequencing session. *B&P Pro* could stand a little less Amiga-tizing, or least a few more keyboard shortcuts.

## SONIC SURGERY

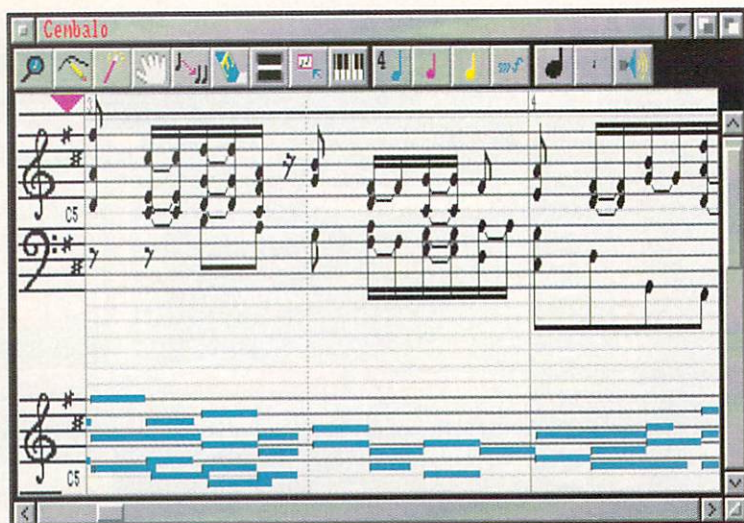
A *B&P Pro* pace-setter for the Amiga is the ability to display and edit MIDI data as conventional notation. Like the *Sonix* or *DMCS* you've always dreamed of, notation editing permits detailed diddling with pitches, durations, velocities, and more. Global screen updates in this mode become visually distracting and can bog down on an unaccelerated machine (plenty of RAM and a processor accelerator are highly desirable when using *B&P Pro*). This is a great feature for "paper" composers. Graphic note representations are also available for the notation-phobic.

For "big picture" editing, the A-B-A song editor from *B&P* has been transformed into an impressive Song Construction editor and the Song Parameters window now permits you to draw custom contours for crescendi and diminuendi over several measures.

A new feature, MixMaestro, records volume change







Music may be displayed and edited in conventional notation or hybrid notation and piano roll displays.

and instrument pan into existing tracks. Push and pull the bars of this graphic "mixing board" and *B&P Pro* inserts the real time Control Change messages.

Another *B&P Pro* exclusive, Time-Line Scoring, is one of two features that target film and video composers. Time-Line Scoring lets you load multiple *B&P* Song files and trigger their start at a precise point in SMPTE

time. A second feature for film composers is the ability to lock individual tracks to real time, regardless of the tempo changes made in other tracks.

Though useful in a limited way, these two features are symptomatic of *B&P*'s faulty "professionalism." Syncing start times to real time is a fine feature, but what's really needed is the ability to lock events within those songs to specific times. Then you can shift tempos to tailor a score to video images. Time-locking individual tracks helps create a rock-solid Foley (sound effects) track but also lacks the room for experimentation that, after all, is why we bought sequencers in the first place.

List Editing in *B&P Pro* is a disaster. MIDI nerds who like to type numbers instead of sketching velocity contours should stay away. MIDI values

in the list editor can be changed only by clicking on a number and sliding the mouse to get a new numeric value. Yecchhh. If you prefer MIDI mathematics to graphic editing (as I often do), stick with Dr. T's *KCS*.

## FASHIONABLE ACCESSORIES

The ingenious Tool system of *B&P* remains intact in *B&P Pro* and is just as impressive. This object-oriented system implements each function as an icon. Tools range from simple quantizing icons to icons that compose counterpoint or accompaniments. Attach them to the front of a MIDI track and they affect data at the recording stage. At the back of the track, they only alter data at playback, leaving the original MIDI tracks unchanged. Not only do the Tools give *B&P Pro* room for unlimited feature expansion, they encourage rewarding and inspiring "what-ifs."

Only two new tools are added to the *B&P* Toolbox. Flip inverts notes around a center pitch, and Loop repeats and transposes a select group of measures.

An ARexx port (also available in Blue Ribbon's add-on *Multimedia Kit* disk) allows interprocess communication with other applications, notably *AmigaVision*.

Big Sys is a poor SysEx record/send/store device that lacks handshaking. You must initiate every SysEx transmission from the panel of the synth. This is scarcely competitive when even elementary IBM/PC compatible sequencers typically include patch librarians as standard equipment.

## HEAR IT IN PRINT

Users of *B&P* asked for the ability to print scores and *B&P Pro* gives it to them, barely. Though it is now possible to print scores of your MIDI files, *B&P Pro*'s notation skills are limited. *B&P Pro*'s score printing is a way to get quick, dirty, and handy hard copy. But the program is not a full-fledged music publishing program.

A more admirable print goodie is the 212-page manual. *B&P Pro* is an intricate product with a unique design approach. The manual clearly explains both its philosophy and function.

## FINAL CUT OFF

As a great admirer of the original *B&P*, I expected great things from *B&P Pro*. I was disappointed. The new program is prettier and, in some ways, more functional and easier to use. But frankly, I don't see it as improvement enough to earn the "professional" title or the additional price.

If money is no object, or you specifically need a *B&P Pro* exclusive feature, buy this. You'll have the most full-featured graphic editing sequencer on the Amiga.

If you're on a budget, though, consider purchasing the original *Bars & Pipes* along with one or more of the add-on tools and accessories disks. Chances are you'll spend a bit less and get more creative functionality.



**BARS & PIPES  
PROFESSIONAL  
V.1.0C**



**\$379.00**

**The Blue Ribbon  
Soundworks Ltd.  
1293 Briardale NE  
Atlanta, GA 30306  
404-377-1514**





**M**ultimedia is just another name for having a lot of different sources of imagery and sound and (all too often) having no way to easily combine them into a coherent whole.

This isn't an unusual problem in a video studio, but through the miracle of videotape editing we eventually assemble all the separate pieces of media onto tape. It's a lengthy, tedious, and exacting process guaranteed to add hours to your project completion time.

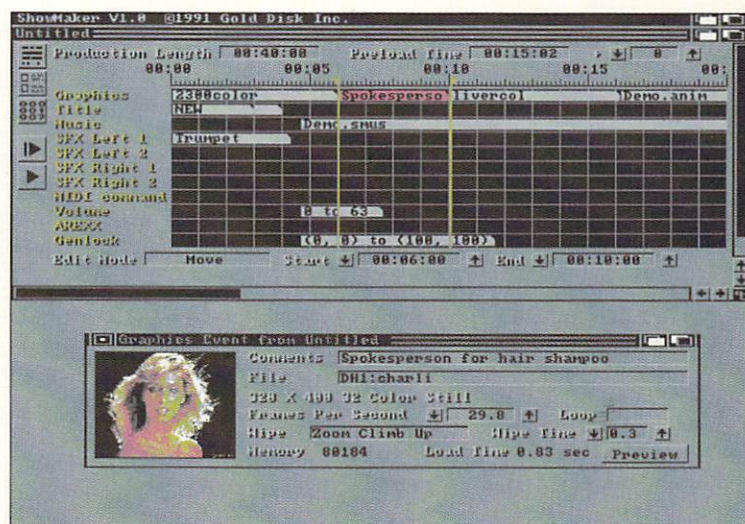
Or you could use *ShowMaker*, Gold Disk's latest entry into the multimedia field. Think of it as the glue with which to stick together all those pieces of your production. *ShowMaker* releases you from the weary task of editing by enabling you to chain together multiple media events, playing them on demand for a one-pass recording of all your Amiga elements.

*ShowMaker* started life over two years ago, before all the hoopla over multimedia began. At that time, it was fully intended to be used in a video setting; since then it has also become a wonderful addition to the growing number of packages available for 'multimedia presentation.' All of which means it was tough for Mark to decide whether Harv should review *ShowMaker* in the 'Multimedia' column, or if I should do it here in 'Video.' (I won.) Regardless of your intentions, you'll find *ShowMaker* to be a welcome addition to your post-production process.

## TIMELINES

*ShowMaker*'s operations center around the concept of a production timeline. Everything can be shown or played at a specific point in time over a specified period, in combination with other media events such as music or titling. *ShowMaker*'s control is absolute and accurate. This is accomplished by preloading each picture, animation, effect, etc., in advance of needing it, ensuring that it's ready when its time for presentation is due. *ShowMaker* calculates this preload time during the setup of the production and factors in your computer's RAM capacity, hard drive, and cpu speed.

*ShowMaker* controls the presentation of almost any output you can think of: Amiga images in any resolution or palette size, DCTV images, HAM-E images, SMUS files, sampled sound effects, instruments and OP5 animations. It also controls the operation of the *SuperGen* genlock, multiple RS-232 serially-controlled VCRs and laserdisc players, MIDI devices, and even the *Video Toaster*, either inside your computer or in a second Amiga. The Amiga's sound volume is also separately controllable whenever music or sound effects are playing. ARexx control of *ShowMaker* is possible, as well as ARexx control of other programs running on the same Amiga. There is hardly anything left to ask for!



Assembling a presentation with Gold Disk's *ShowMaker*.

## USING SHOWMAKER

The timeline is accessed by clicking on the appropriate track (let's pick the graphics track) which brings up a load requester. After selecting your image or ANIM you have a choice of how and when to display it. The event window contains information about the image's resolution and size, memory requirements, frame rate (if an ANIM) and a small picture of the image or ANIM as well. You'll also find the preload time has already been calculated. At this point you can also tell the program to loop the ANIM if desired, and to "wipe" in the image using a variety of styles. Palette changes are barely noticeable during these wipes, due to the cross-fading of the palettes. The image and its wipe can also be previewed before leaving the window. Clicking on other tracks brings up similar windows with similar information and choices. Each event is labeled on the timeline for easy identification.

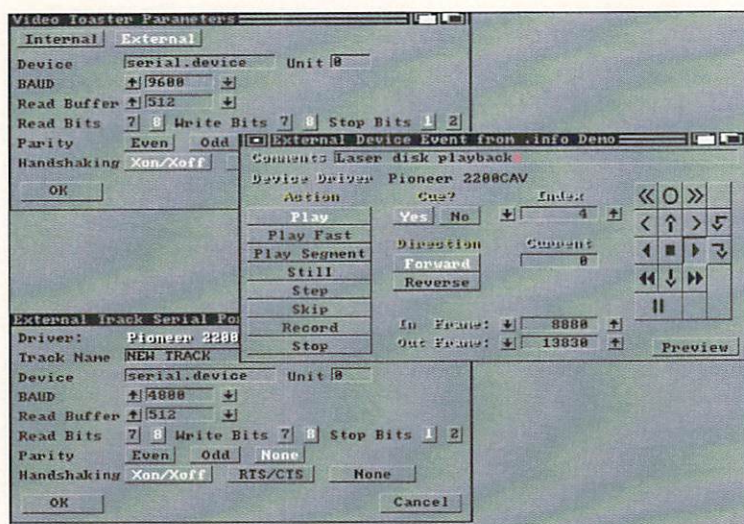
Once an event has been selected, the program allocates a specific start point and end point for it on the timeline. These are arbitrary and are easily changed to your needs by dragging the yellow vertical bars that surround it. These can also be used to move the entire event up and down the timeline, or to expand or shrink the event's time period. Sections of the timeline can also be highlighted and cut, pasted, and deleted as desired. Although the timeline is marked off in minutes and seconds, it can be changed to beats and measures of



**"I know! Let's put  
on a show!"  
OJ & Judy &  
Mickey are out  
in the old barn  
putting things  
together with Gold  
Disk's *ShowMaker*.**







A montage of important ShowMaker control panels.

music. When used in this manner, graphics and other events can be changed precisely on the beat you choose regardless of what time it may be. Speeding up a song's tempo (yet another option) would, in effect, also speed up the display in a corresponding manner.

All ShowMaker events can overlap. Music will play while animations run or images wipe from one to another. Using music and sound effects simultaneously can cause some fighting over who gets what channel,

although the music generally wins unless the sound effect is given priority. ShowMaker will also control SuperGen 2000 series genlocks. You can specify what mix of graphics, video and overlay you desire at both the start and at the end of an event. The timing to change from one setting to another is the same as the length of the event on the timeline. Genlocks, however, aren't the only hardware over which ShowMaker can exert influence.

### EXTERNAL DEVICES

Video is more than just Amiga-produced images. In fact, the ratio is usually nine parts video to one part graphics. ShowMaker addresses this fact by allowing you to control external video devices. Examples of these are the new NEC PC-VCR, Pioneer and Sony laserdisc players, Panasonic read/write optical disk units, and the Selectra AG1960 VCR; all are RS-232-controlled devices. New device

drivers are easily added as needed. (One example is the recent addition of the new Sony 8mm deck that's designed to fit into a 5 1/4" drive bay and be controlled with 2-frame accuracy.) This approach allows ShowMaker to drive most any serially-controlled device. Using more than one source of video creates a problem, though: which source of video do you use, and how do you switch to it when needed?

ShowMaker answers that problem with a popular solution, NewTek's Video Toaster. The Toaster can be controlled externally via the serial port or internally via AREXX. You merely call up the Toaster parameter window to pick and choose how to control your Toaster. All Toaster effects are available, as is the output of the digital buffers. Virtually any aspect of the Toaster is accessible from ShowMaker. Just how does the Toaster solve our dilemma though? Easy: by using it for its most fundamental function, that of a video switcher. ShowMaker cues your video sources and Amiga graphics and switches between them using the Toaster. Of course, you can use the Toaster Digital Effects to make your changes, as well as using the Toaster's Character Generator over the selected video source. The possibilities are almost endless. Imagine having your Amiga graphics as one input (output via a ShowMaker-controlled genlock), a VCR as another source, a laserdisc, and DCTV. Although that may be a rather exaggerated setup, it's certainly possible. Such a setup was actually used to put together the demo tape sent along with ShowMaker. When you watch the demo tape remember that everything you see ultimately happened as the result of only one keypress. It's awe-inspiring.

### EXTRAS

ShowMaker has numerous well thought-out features. For instance, all images are centered automatically within the 736x480 Amiga display area regardless of your preferences settings. This ensures that all graphics are concentric and also guarantees that DCTV images are correctly interpreted by their hardware. MIDI control is also available for those not wishing to be tied to the Amiga's limit of four voices. ShowMaker itself can also be controlled by MIDI sources. Once again, your graphics can be changed by beat, but the beat is external in this mode. The timeline can be changed to read increments of SMPTE time code, which ties ShowMaker's events to specific moments occurring in your tape (an external SMPTE time code reader is necessary for this). Using more than one serial-controlled device is possible using a multiple serial output card.

ShowMaker also has a built-in titler. Lines of text can be created using fonts specified by the user. This text can be scrolled in several different ways, with shadowing and outlining as desired. The scroll speed is determined by



**ShowMaker**  
\$129.95  
★★★★+

**Gold Disk**  
5155 Spectrum  
Way, Unit 5,  
Mississauga, ON  
L4W 5A1, Canada,  
416-602-4000





## NEWTEK READIES 2.0 TOASTER SOFTWARE

Not content to rest on their considerable laurels, the folks at Newtek have been working feverishly to complete version 2.0 of the *Video Toaster* software. 2.0 promises to be a major upgrade, along with some nifty surprises. Here is a preview of some of the features we can tell you about at this time:

**LIGHTWAVE** will support two new rendering resolutions - 'Super Lo-Res' (fast) and 'Print', which is a whopping 3072 X 1920 pixels - that's four hi-res overscan Amiga screens wide by four interlace overscan screens high! There are also new buttons for raytracing both shadows and reflections, an 'underwater' procedural texture, and improved morphing and motion envelopes. The *LightWave* team is reportedly keeping several additional new features secret until the last minute. *LightWave 2.0* will also handle twice as many vertices and faces as the current version, with the same amount of memory.

**MODELER** has been enhanced with several exotic new tools such as twist, bend, taper, skin (creates solid objects from multiple cross-sections), and an adjustable-influence magnet. Greater editing control has been added for more precise manipulation of vertices and faces, including the ability to select elements directly in the perspective view.

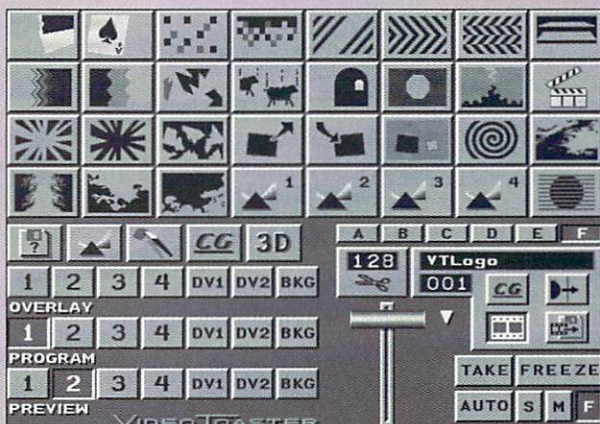
**SWITCHER** will sport at least two new screens full of switcher transitions, including some remarkable organic effects, like pouring water, and 3D warping effects, like wrapping an image around a sphere.

**CHROMAFX** color cycling has been enabled, and you will now be able to use a *ChromaFX*'d frame directly in a switcher transition.

**TOASTERPAINT** scrolling has been overhauled to provide better control and a more predictable feel.

In general, the *Toaster*'s requesters have been improved and a new, improved manual is near completion. Overall operating speed has been significantly increased and *ChromaFX* can be dumped to give low-memory machines more headroom. A new shared buffering scheme allows a still frame to be instantly available and interactive as the user moves between the various *Toaster* functions. This means that a frame can be grabbed from video, moved directly to the Character Generator where text can be rendered right to the frame, then taken to *ToasterPaint* for further editing, and jump right back to the Switcher with the finished frame ready to use in a transition (all without saving and loading the frame).

All registered *Toaster* owners will be notified by mail when 2.0 is ready, and will be able to upgrade



NOTE: THIS SCREEN IS PRELIMINARY AND SUBJECT TO CHANGE.

for a reasonable fee ("more than \$100, way less than \$500"). The upgrade will come on something like 15-20 diskettes, along with the new manual, and a training tape, and is scheduled for release by the end of the year. In the meantime, you can still get Newtek's slick VHS *Toaster* demo tape "Revolution" free by calling (800) 765-3406.

## NEW SINGLE-FRAME VIDEO DECK FROM SONY

Video giant Sony has broken another cost barrier for desktop videographers who have been longing to use the animation capabilities of products like the *Video Toaster*, but have been reluctant or unable to scrape up the \$15,000 to \$100,000 needed for a professional tape deck capable of single frame recording, along with an expensive controller to interface it with. Sony's new *EVO-9650* is a Hi8 format video deck which will list for under \$6000 (the price of some controllers alone), and is designed specifically to be used for single-frame animation recording under computer control. The 9650 features both RS232C and VISCA control, over 400 lines of video resolution with a 45dB S/N ratio, and slide-in encoders for optional RGB-NTSC, S-Video, or Composite. Available first quarter. For more information, call Sony Corporation of America (201) 930-1000.





## VIDEO

by Oran J. Sands, III

the timeline. Although this feature isn't quite as friendly as the others, it's an invaluable method of adding titles over Amiga art or animations. The color choices for the fonts and shadows or outlines are made from the palette of the image selected to appear at that point on the timeline. Scrolling is smooth at some speeds and not so smooth at others; you'll have to play with it a bit. Color fonts are not currently supported.

## CONCLUSION

*ShowMaker* worked fine at all times on accelerated and stock Amigas. (Altering the tempo of a SMUS file caused a singular guru which I could not duplicate.) The install program, however, wouldn't work on two of the Amigas I tried it with. It installed fine on two others. The moral of this is: read the instructions and do a manual

installation using the CLI. It will save you hours of frustration. And please read the Manual Addendum *before* using the program so you won't wonder what happened to certain keypresses. The manual and tutorial are very understandable, easy-to-use, and fairly complete.

The beauty of using *ShowMaker* lies in having the ability to sequence and precisely time all of the elements of your video, which enables you to record layered and complicated scenes with *first* generation quality. There is no need to record the Amiga work first and then edit and mix as many as three generations of video before getting the scene completed. It also minimizes the need for multiple edits, which is quite time consuming regardless of which editing system you use. *ShowMaker's* controlling personality lets you work smarter and will save you time. And that's a plus in my book.

## GRAPHICS

by Brad Schenck

**R**ecent months have seen the introduction of a number of graphics display enhancers for the Amiga. Because our system software does not yet support 'true color' applications transparently, each of these products is now limited to software written specifically for its native device.

To further muddy the waters, each of these display enhancers uses a very different approach and makes different compromises, so each has its signature strengths and weaknesses. It's beyond the scope of this column to explore these differences; this month I'm simply going to compare two software paint programs that do essentially the same thing.

Both the *Video Toaster* and *DCTV* are composite video display devices. Each comes with a paint program that allows the artist to create images in far

more colors than a stock Amiga can display. Because of video's limitations, a video display can't show a full 24-bit image, or display all abrupt color transitions; it can show several million colors however, and the results are very impressive.

## ABOUT THIS BIG

Both *Toaster Paint* and *DCTV Paint* limit an image's size to a single video screen (736x480 pixels) and work internally with 24 bits of color. That means that an image can be saved out as a 24-bit file and output through a film recorder or other device in true 24-bit color. However, if an image is first converted to the device's video format ('Framestore' or 'DCTV Display') much of the 24-bit color information may be lost.

The size limit is troublesome if you have uses for your work outside of video in which you want much higher resolutions. Neither program will let you scroll around within a larger image, which is desirable for work going to print, film, or slides.

Each program displays on a video monitor; if you use a monitor like the Commodore 1084 with both RGB and video modes, you can physically switch between the two displays. But because *Toaster Paint* works on a HAM RGB screen it's more convenient to use that program with two monitors. *DCTV Paint* allows the artist to work directly on the video display, so it's not necessary to view the system's RGB output unless you want to pop over to a different screen while multitasking.

Multitasking is a sore point with the *Toaster* software. NewTek has made it difficult for users to get back to the Workbench or other screens, and the *Toaster* software uses up Amiga's memory very quickly. In addition, after



Brad's painting  
with 16 million  
colors with *DCTV*  
and the *Toaster*.





**TOASTER PAINT \$1595**  
(bundled with *Video Toaster*)



NewTek, 215 East 8th Street,  
Topeka, KS 66603, 913-354-1146

exiting the Toaster software the systems's memory always seems to be hopelessly fragmented - I've found that the best practice is to shut the system down and start it up again after working with the Toaster.

### AND ABOUT THIS DEEP

The programs approach color selection a bit differently. *Toaster Paint*, with an interface modelled closely on *DigiPaint III*, features a series of color chips and gradient boxes. *DCTV Paint* uses color chips and sliders, but adds a 'scratch' area for mixing colors. Both allow the artist to select a color from the workspace.

Each program features basic paint functions like transparency, gradients, 'rub through' to a spare screen, smoothing, and so on. Each allows the artist to pick up a 'clip' or 'brush' from the image and modify it or paste it elsewhere, though it's not possible to paint with custom brushes as freely as in *Deluxe Paint*. Both programs use standard Amiga fonts, importing a typed line of text as a brush. Each offers several Fill options that include brush patterns and warping. Brushes may be rectangular or irregular; *Toaster Paint* offers a 'transparent color' option for picking up brushes against a background color, where *DCTV Paint* doesn't. This is a tricky feature though, since the background color is defined on the HAM RGB screen where the work is done. I've found that this HAM screen may display a solid color as a dithered pattern, so that selecting a color to be transparent may not include all the colors used to represent it on the HAM screen. Since more than one color represents the 'transparent' color, the result is that it doesn't all become transparent. This is an area where *Toaster Paint*'s HAM workspace gets in the way of composite painting.

**DCTV PAINT \$495**  
(bundled with DCTV)



Digital Creations, 2865 Sunrise Blvd.,  
Suite 103, Rancho Cordova, CA  
95742, 916-344-4825



Here, two parts of a 24-bit border design for *Enchanted Realms* magazine have been combined together. The entire design measures 1120x1280 pixels, and working on it with software that's limited to 736x480 required considerable ingenuity.

*Toaster Paint* has Undo and Redo features which are conspicuously absent in *DCTV Paint*.

### AND ABOUT THIS MUCH DIFFERENT

*DCTV Paint*'s great strength and its greatest drawback are the same: its many painting modes and tools all affect one another. This makes it tremendously powerful because of the wide array of effects it can produce. It also makes it terribly frustrating because of its lack of Undo and Redo functions. Since the tools affect one another's performance, you often find that an operation didn't have the exact effect you wanted. The program has a 'Quick Save' tool to save the work in raw format so that it can be reloaded; I've found that it's a good practice to make a 'clip' of the area I'm working on before trying something, since the clip can be pasted back more quickly than the Quick Load will restore it. Undo and Redo features would make creative experimentation less frustrating. With these two features the program would be far more usable.

*DCTV Paint* also offers stencils. These are defined by painting a mask or (according to the manual) by using a Flood Fill to fill 'similar' colors using the Color Closeness settings. I have never gotten such a flood fill to work for me. I don't doubt that it does work, but I think



**Both programs  
allow artists to  
create stunning  
images in millions  
of colors.**







In this image, *Vista Pro* and composite video paint software have allowed me to put my car in Yosemite Valley without dodging Winnebagos or using gasoline.

it's been implemented in such a convoluted way that it's made a fool of me.

*Deluxe Paint* stencils can be loaded into *DCTV Paint*, and that's a welcome aid. It's possible to design all the elements in a project in a hi-res image, isolate them as stencils, and import the stencils into *DCTV Paint* where a full color version of the image can be created from scratch with these masks.

*Toaster Paint*, by contrast, has less powerful painting modes, simply because they cannot be combined as *DCTV Paint*'s can. Its gradients are not as powerful, either. (*DCTV* has excellent controls over multiple gradient ranges.) On the plus side, its less ambitious features work simply and well. It feels more like a 'bare bones'

paint system, but it lacks some of the frustrations encountered in *DCTV Paint* as a result.

That *Toaster Paint* has a HAM work screen, and 'uploads' changes to the video display, seems like a limitation at first. I'm surprised, in fact, that it doesn't seem to interfere very much with my work. You are always working in 'magnify' mode since the low-res HAM screen uses an image that's 736x480 pixels (it's possible to 'zoom out' to a full screen view, but not all painting operations are possible there). I suppose I spend so much time in magnify mode in any paint software that it just doesn't bother me much. I've mentioned that this HAM display can interfere with the transparent color selection, but that's an exception.

The illustrations for this article were created with both programs. I've tried to go freely from one to the other as I worked to gain a feeling for each; and I've surprised myself by going back so often to *Toaster Paint* since it 'feels' less capable. Its Undo and Redo are part of the reason. The other part is something outside the scope of my comparison: the display is better, and I'd rather look at it. That's to be expected, since the *Toaster* costs three times what *DCTV* does. The greatest advantage of *DCTV* is also outside the scope of this article: it can animate in real time, and the *Toaster* can't.

All such tangents aside, both programs allow artists to create stunning images in millions of colors. *DCTV Paint* has more ambitious features, but without Undo and Redo those features sometimes actually interfere with your work. It's necessary to protect yourself against what might happen next, and that's counter to a creative process. *Toaster Paint* is less capable, but interferes less with the creative process.

Remember that this comparison is made using the initial release versions of each program; both developers seem to be at work on enhancing their software, and by the time you read this the balance may have changed.

# SUBSCRIBE

a  
n  
d *Save*

for **AMIGA** **USERS!**  
**.info**

|  |   |   |
|--|---|---|
| 11 issues<br><b>1 Year</b><br>only<br><b>\$26.00</b><br>you save<br><b>40%</b> | 22 issues<br><b>2 Years</b><br>only<br><b>\$47.50</b><br>you save<br><b>45%</b> | 33 issues<br><b>3 Years</b><br>only<br><b>\$65.00</b><br>you save<br><b>50%</b> |
|--|---|---|

Canada/Mexico: add \$8.00 per year  
Foreign: add \$24.00 per year

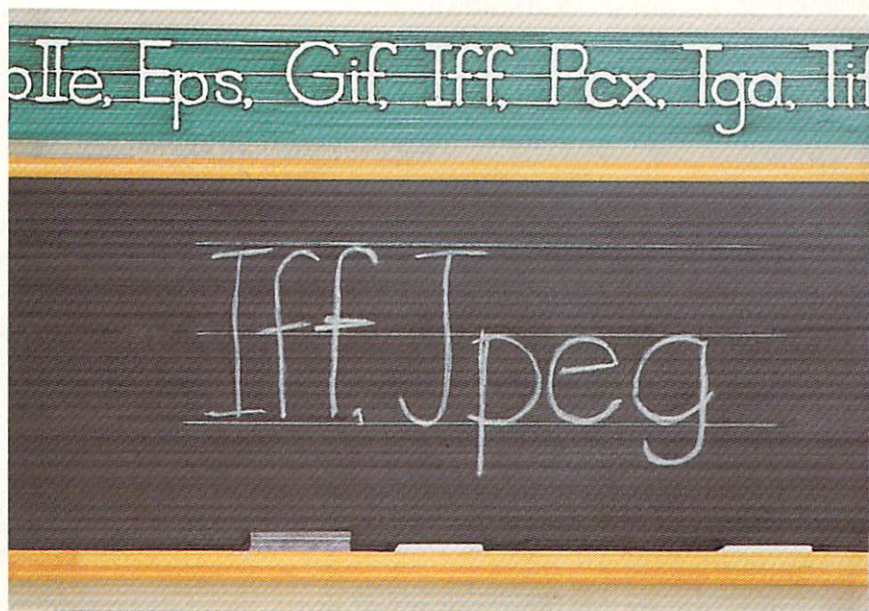
## ORDER NOW!

For details see the  
subscription card  
included in this  
magazine  
or call toll free  
**1-800-373-0703**

Please have your MasterCard  
or VISA ready when calling



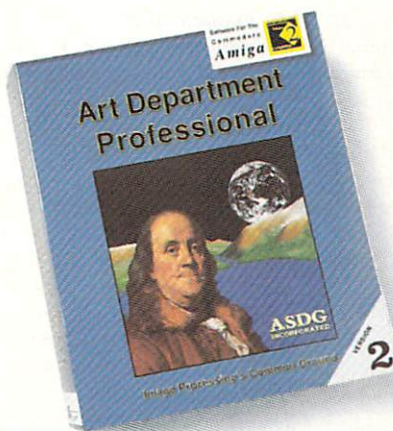
# Teach Your Art Department To Read And Write



Think of the opportunities you'd miss if you couldn't read or write.

An imaging professional needs to be fluent in many languages. For instance, you have a picture in IFF which you need to combine with clip art stored in PCX. You need the result in GIF for use on PCs, but you also need it in PostScript to be sent to a service bureau.

**Art Department Professional (ADPro)** is your short cut to picture format literacy. Using it, you can read and write many important formats. **ADPro's** modular design allows additional formats (or even



925 Stewart Street  
Madison, WI 53713  
608/273-6585

the ability to control scanners, digitizers, printers and film recorders) to be added as your needs grow.

No matter which format you're coming from or going to, **ADPro's** advanced image processing capabilities help you get the best results. And, you can use **ADPro's** comprehensive ARexx interface to batch process hundreds of conversions as easily as one.

If pictures are your words, don't let a language barrier get in your way. Get **Art Department Professional!**

The following names are trademarked by the indicated companies: Art Department Professional: ASDG Incorporated. PostScript: Adobe Systems Corp. PCX: ZSoft Corporation. GIF: CompuServe Information Systems. ARexx: Wishful Thinking Development Corporation.

Circle #107 on the Reader Service Card



# for AMIGA USERS! info BACK ISSUES

## #10 INFO May/June 1986

Monitor Roundup! C64 wordprocessors, Multiplan for C64/C128, Amiga BASIC, Tips & hints.

## #11 INFO Aug/Sept 1986

Product Roundup issue: over 1500 hardware and software listings for C64, C128 and Amiga.

## #12 INFO Nov/Dec 1986

Graphics report: C64/128 and Amiga painting, CAD, drafting, video animation, tools and utilities, Idea-processors, 8 bit business software.

## #13 INFO Jan/Feb 1987

Games issue: C64/C128 and Amiga games, 8-Bit business and application software (part I), Telecommunication networking, Amiga Music.

## #14 INFO Spring/Summer 1987

Product Roundup issue: over 2000 hardware and software listings for C64, C128 and Amiga. First look at the A500 & A2000 systems.

## #15 INFO July/Aug 1987

1st Annual C.H.U.M.P. Magazine! Commodore & Amiga Survival Guide, Anne Westfall interview, TDI Modula 2, Supra Hard Drive.

## #17 INFO Nov/Dec 1987

ANNUAL GAMES ISSUE! GEOS Update, 16/32 bit comparison, C128 ROM upgrades, B.E.S.T. Accounting, Word Writer 3, DIGA!

## #18 INFO Jan/Feb 1988

Desktop Publishing & wordprocessors (part I), Virus diagnosed, Geos Update, C64 Power Cartridges, C128 Superpak II.

## #19 INFO Mar/Apr 1988

Desktop Publishing & wordprocessors (part 2), Leo Schwab interview, GEOS Update, ICT hard drive, Digital SuperPak2, Thoughtform.

## #20 INFO May/Jun 1988

Desktop Video: Titlers, genlocks, converters, C64 slide show programs, GeoStuff, AmigaDos 1.2 Bugs, Joel Hagen tutorial.

## #22 INFO Sep/Oct 1988

Digitizing, Mac VS. Amiga, GeoStuff, Over 50 reviews for C64, C128, and Amiga computers, INFomania Game Tips! BRYCE debut!

## #23 INFO Nov/Dec 1988

ANNUAL GAMES ISSUE!! INFO Mania Game Tips, New Products, News & Views,

## #24 INFO Jan/Feb 1989

Amiga 3D Graphics Round Up, Reichart Von Wolfsheid interview, GeoStuff, SuperBase Pro, Spectrascan, Sky Travel.

## #25 INFO Mar/Apr 1989

Amiga Animation Round Up, Rodney Chang interview, C128 T.H.I.S., GeoCalc 128, Dr. Term Pro, AC/BASIC, Microfiche Filer Plus.

## #26 INFO May/June 1989

Paint Program Round Up, Loren Lovhaug interview, Removable Mass Storage, 1581 Toolkit, MicroLawyer, WillMaker, Pen Pal.

## #27 INFO Jul/Aug 1989

3rd Annual C.H.U.M.P. Magazine! Dale Luck interview, Sound & Music, Fractals, GeoProgrammer, Silentwriter LC890, Transcript.

## #28 INFO Sept/Oct 1989

Video Boot Camp! High-End Amiga Expansion, Gail Wellington interview, 3D options, Home Town, Viking I, A-Max, Anti-Virus, V.I.P.

## #29 INFO Nov/Dec 1989

Annual Games Issue! Chris Crawford interview, SFX Sound Expander, The Write Stuff 128, Toshiba ExpressWriter 301, RawCopy, Mac-2-Dos.

## #30 INFO Jan/Feb 1990

Amiga DeskTop Publishing Tools, LOGO, A590 Hard Drive, Dual Serial Board, Abacus Books, Twin Cities 128 book.

## #31 INFO July 1990

Amiga 3000, AmigaVision, AmigaDOS 2.0, R.J. Mical interview, Ray-Tracing, TV\*Text Pro, CanDo, CrossDOS, FractalPro, ScanLab 100.

## #32 .info September 1990

First issue of monthly All-Amiga .info! Turbo Silver, Laurence Gartel interview, Page Stream 1.8, Power PC Board, introducing CDTV, all new .info Technical Support section by Sullivan and Zamara.

## #33 .info October 1990

Fractal Frontiers, Inside AmigaVision, Peggy Herrington's new Music & Sound column, Pro Video Post, The Art Department, Archivers.

## #34 .info November 1990

The Video Toaster Cometh! George Christensen interview, ProWrite 3.0, Synthia II, Sax-on Publisher, Pro Draw 2.0, Hard Disk Management.

## #35 .info Dec 90/Jan 91

Annual Games Issue! The year's top 25 games, Exclusive - Amiga Unix, Battletech Center, Elan Performer, GVP Impact II SCSI RAM Controller.

## #36 .info February 1991

Image Wrapping, The Amiga in Europe, Victor Osaka interview, World's first Video Toaster Show, Renderman, A-Max II.

## #37 .info March 1991

Ellison Horne profile, Video Toaster part 2, MINIX 1.5, Pagestream 2.0, Power PC Board, Animation Studio, AudioMaster III & E-Z FM.

## #38 .info April 1991

Amiga Networks, Draw4D, Auto-Script, J. Hopkins profile, Video Toaster part 3, WOC, CES, UNIX shows, MacroPaint, Big Belly RAM.

## #39 .info May 1991

Special Music & Sound issue! New Products from Casio, Dr. T's, and Blue Ribbon. Plus Imagine, Arrow 1500, Bodega Bay, and Professional Page 2.0.

## #40 .info June 1991

DPaint IV! CDTV, Hyperbook, Xetec CD-ROM, Amiga UNIX, AmigaDOS Scripts, TransWrite, RAM facts, and Amiga World Expo NY.

## #41 .info July 1991

CDTV, Proper Grammar, PageStream 2.1, Image Processing, Trumpcard 500, Supra Drive 500XP, CI3000 Film Recorder, Art Dept. Professional.

## #42 .info August/September 1991

Desktop Publishing, Networking, Monster Floppies, StoryTeller Fred Wagner, CDTV hardware, Art Department Professional.

## #43 .info October 1991

Setting up a video studio, SpectraColor, Timeline of History, World Vista, The Works of Shakespeare, Bars and Pipes Professional, MIDI/SMPTE, Unix, BPTs, Perfect Grammar.

## #44 .info November 1991

Paint RoundUp, CD+G, Music in multimedia, Chromakey, Unix, Ami-Back, Flashback, Dev-Con.


## #45 .info December 1991

Superbase 4.0, Bars and Pipes Professional, Toaster Paint, DCTV Paint, Showmaker, Scala, Dr. Wellman and Top Ten Games of 1991.



Back issues of .info are available for \$5.50 each (\$6.50 outside the USA)  
Use the tear-out order card or charge by phone with your MasterCard or VISA 319-338-0703



for  **AMIGA**  
**.info inf**

*Rip into the*  
**AMIGA**  
magazine  
with more

Desktop Publishing:  
can Amiga compete?

for  **AMIGA** **USERS!**

**.info** 

*Use the card to  
subscribe  
today!*

Monster  
(25 Meg)  
Floppies!

#42  
AUG/SEPT 1991  
U.S.A. \$3.95  
Canada \$4.50  
DISPLAY UNTIL SEPT. 10

**PLUS:** Inside CDTV \* ADPro for  
Publishing \* 10 New Games \*  
Networking (part 2) \* Micro-Math \*  
AmigaDos Scripts \* and More!



# .info technical support

## CONTENTS

page 52

### Proof Positive

Nick Sullivan shows you how to get ARExx to proofread for you.

page 60

### A Simple Connection Tip

Chris Zamara passes on a handy suggestion.

page 60

### The Future of 24-bit Graphics

Ben Williams shares his insights into the Amiga's graphics evolution.

## Proof Positive

An ARExx text correction utility you can customize by Nick Sullivan

The remarkable thing about our writing mistakes isn't that we make them, but that we make the same ones again and again. If experience taught other lessons as inefficiently as it teaches spelling and grammar, none of us would survive to reproductive age and the human race would die out. A sobering thought - above all when you reflect on the downturn in Amiga sales that would almost inevitably result.

Luckily, the odd spelling mistake doesn't have the same impact in the Darwinian survival stakes as, say, an overdeveloped tendency to fall down stairs. But most of us would prefer, if only for vanity's sake, to reduce or eliminate those boneheaded errors that

```
/* Proofer - Interactive correction of writing errors. */
```

```
if arg()=0 then do
  say "Usage: rx proofer <filename>"
  say "(Corrects <filename>, saving original as <filename>.bak.)"
  exit
end
```

```
/* wds compound variable - each word in the document is looked up here to see if it has an equivalent. If so, the user is offered the chance of replacing the word. A single word, like PC, may have a multi-word equivalent. By the way, "wds.IT'S" is a legal compound variable name, but only when the "IT'S" is formed by substitution, as in the next line. */
```

```
wds. = '' ; s = "IT'S" ; wds.s = "ITS"
wds.toward = "TOWARDS" ; wds.automatically = "AUTOMATICALLY"
wds.its = "IT'S" ; wds.personnel = "PERSONAL"
wds.dont = "DON'T" ; wds.further = "FARTHER"
wds.there = "THEIR" ; wds.doc = "DOCUMENT"
wds.their = "THERE" ; wds.docs = "DOCUMENTS"
wds.isnt = "ISN'T" ; wds.pc = "Personal Computer"
```

```
/* These part-words are trickier to check than the whole words above. Instead of being able to look up words directly to see if they have an equivalent, each word in the document must be checked to see if it contains any part-word in the left column; if so, the corresponding part-word in the right column must be offered to the user. The npwd variable just below must be consistent with the number of entries here. */
```

```
pwd.1 = "FAVOUR" ; pwd.1.a = "FAVOR"
pwd.2 = "IDIOSYNCRAC" ; pwd.2.a = "IDIOSYNCRAS"
pwd.3 = "MISPELL" ; pwd.3.a = "MISSPELL"
pwd.4 = "CONSISTAN" ; pwd.4.a = "CONSISTEN"
pwd.5 = "SPECIALIS" ; pwd.5.a = "SPECIALIZ"
pwd.6 = "ABREV" ; pwd.6.a = "ABBREV"
```

```
/* Program constants */
```

```
npwd = 6 /* number of part words */
punct = ' ' ' ' ' ' ; ; . ! ? ( ) ' /* punctuation symbols */
LF = '0a'x /* linefeed character */
outname = arg(1) ".tmp" /* output file name */
linsiz = 50 /* length of working line */
indent = copies(' ', 5) /* paragraph indent */
```

```
/* Variables requiring initialization */
```

```
pwd = '' /* previous word */
buf = '' /* spillover from working line */
endlf = 0 /* previous line ended in LF */
gotlf = 0 /* current line ends in LF */
```

```
/* Open files. Failure messages omitted to save space */
```

```
if ~open('docfile', arg(1), 'r') then exit 100
if ~open('outfile', outname, 'w') then exit 101
```

```
/* Main loop. Read text in chunks of linsiz bytes into line and buf, such that line has less than linsiz characters and ends at a paragraph break if there is one, else at a word break. The text in the line is checked, and the user is given the chance to correct possible errors. Then line is written to the output file. This continues till the source file ends. */
```

continued...



permanently threaten to engulf and overwhelm the sense in every line of text we write.

Spelling checkers help. Uncertain of the correct spelling of 'sarsaparilla' or 'syzygy,' you can be pretty confident that a spelling checker will be able to help you out if you just type something reminiscent of the word you want. They're not infallible, of course. Don't type 'gavel' when you mean 'gravel,' or 'pension' when you mean 'tension' - the spelling checker won't help. Don't count on it to save you when you type *Shadow of the Breast*, or even *Shadow of the the Beast*. But it's a good first line of defense.

Whoops! I mean, "But it's a good first line of defense." Another error the spelling checker won't catch is confusing the possessive pronoun *its* with the contraction *it's*, a mistake that's easy to make when you're writing in a hurry (which is to say, always). It won't help you with *there* and *their*, either, or with other sound-alikes that slip unnoticed into a document while your brain-resident grammar filter is temporarily off-line.

Time, then, for a more exotic weapon: a grammar-checking program, like SoftWood's *Proper Grammar*. Such programs can be quite sophisticated, and may help you catch not only outright grammatical errors but also higher-level technical flaws such as over-reliance on passive voice, run-on sentences and the like. They should detect most instances of the *its/it's* and *their/there* mix-ups. Not everyone owns or even wants to own a grammar checker, though; nor do existing grammar checkers do a perfect job.

An error I myself often make is to type 'you' when I mean 'your,' and vice versa: 'I love your mother' instead of 'I love you mother,' for instance. You probably don't make that mistake, but undoubtedly have favorites of your own.

Perhaps you, or someone you write for, also has standard usages or spellings that must be adhered to - departure from which might not be an 'error' that any program would catch. Writing for *.info*, for instance, I use the American spelling for words like *color*, whereas (since I live in Canada) in writing for myself I would use the British-

```
do until length(buf) = 0
  if length(buf) < linsiz then buf = buf || readch('docfile', →
linsiz)
  parse var buf line =linsiz buf /* split text at linsiz'th byte */
  nobrk = 0 /* assume line has space or LF */
  gotlf = 0 /* assume line does NOT have LF */

  /* If line has LF, remove it and prepend rest of line to buf */
  if pos(LF, line) > 0 then do
    parse value line || buf with line (LF) buf; gotlf = 1
  end
  /* Otherwise split line at final space (and remove space) */
  else do
    n = lastpos(' ', line)
    if n > 0 then
      parse value line || buf with line =n " " buf
    else
      nobrk = 1
    end

  /* If previous line ended para, and this one is non-empty,
  indent it */
  if endlf & length(line) > 0 then line = indent || →
strip(line, '1')

  endlf = gotlf /* if this line ends with LF, indent next one */
  ufile = upper(line) /* UC copy of line for word matching */
  cw = 1 /* current word (NB: this var is global) */

  /* Process words in line from left to right */
  do while cw <= words(ufile)
    /* Current word, UC, punctuation stripped from both ends */
    ws = strip(word(ufile, cw), 'b', punct)

    /* Doubled-word removal: if word is same as previous, let user
    kill it and following space (preceding space if last word in line).
    */
    if ws = pword then do
      wi = wordindex(line, cw) - (cw=words(ufile))
      line = submit(line, wi, wordlength(line, cw) + 1, '')
    end

    /* If the word has an entry in the wds. compound variable,
    offer the user its equivalent. */
    else if wds.ws ~="" then
      line = editword(line, cw, wds.ws)

    /* Check the partial word table to see if any occur in this
    word. If so, offer the user its equivalent from the table. */
    else do
      do i=1 to npwd until ci >= 0
        ci = pos(pwd.i, ws) - 1
        if ci >= 0 then do
          ci = ci + wordindex(line, cw)
          line = edit(line, ci, substr(line, ci, length →
(pwd.i)), pwd.i.a)
        end
      end
    end

    pword = ws /* current word becomes previous */
    ufile = upper(line) /* UC new version of line */
    cw = cw + 1 /* Advance to next word */
  end
```

continued...



# Public Domain Library

## Guarantee

We believe so strongly in our product that we offer a full lifetime, complete satisfaction guarantee. No questions asked.

We have been the official Public Domain Library of all of the best Amiga magazines. Find out why these magazines choose us! Each of our disks are jam packed with only the best programs. The first two letters on each disk indicate the orientation of the disk; DD# intermediate to advanced - often contains source, WB# general interest - most programs can be run from the workbench, and FD# games and entertainment. Order our disk based catalog and receive a coupon for a complimentary volume with your next purchase.

## Featured Disk

**FD39a & b: Star Trek, The New Generation** - This is a, completely different version of Star Trek than that found on FD12. This one was created by the German author Tobias. Now with English instructions. Very Excellent!! Counts as two disks.

## NEW AMIGA

**FD69: MindGames** - Had enough of shoot-em up blasting games? Relax and let these 21 games exercise your mind instead of your wrist.

**FD68: Potpourri** - Eternal Rome is a strategic simulation of the Roman Empire including military, diplomatic, political, economic and social factors. Lord of Hosts is a board strategy game for 2 players. In Moonshine, you've got to get the hootch across the state line - a great rolling, scrolling driving game!

**FD67: Arcade** - Includes Llamatron a well-done 'Robotron' clone. Hate is a 'terrific' commercial grade Zaxxon clone with multiple levels/worlds and smooth diagonal scrolling. a 10!

**FD66: GameTease2** - Contains playable demos of ChuckRock and Torvak

**FD65: GameTease1** - Contains playable demos of Atomino and Turrican II

**FD64: Games** - Wizzy's Quest - a "great" 50 level game with great graphics, Cubus - a 3-dimensional Tetris type game (rotate and move in 3 dimensions). Husker Du - Colors and pattern rather than shape in this Tetris-esque game; 5 screens and 3 levels of difficulty. Requires Fat Agnus (1 Meg of Chip)

**FD63: Quizshow** - an interactive multimedia quiz game show program that tests your knowledge of Dpantill. The questions can be changed so you may quiz on whatever topic you'd like.

**FD62: PomPom Gunner** - An extremely smooth and well done World War II gunner simulation. Requires 1 meg chip memory.

**FD61: Games Solitaire** - great graphics, plays two versions. Kluge, an interesting piece of eye candy. Extreme Violence; 2 player kill or be killed game. "ATC": A Tetris clone with Artificial Intelligence. Genesis; create realistic 3d fractal worlds.

**FD60: Games in Nebula** - race over a 3d world to destroy enemy installations. Interferon; a great Dr. Mario clone. Enigma; is it a game or a puzzle?

**WB100: CalligariPRODemo** - Can't afford \$3,000+ to see if the granddaddy of 3D rendering software is for you? Then try the demo version of this renowned modeler that the pro's rely on! No built-in save function, requires 68020+ processor.

**WB99: Lifestyles** - Includes AGene-family tree program that tracks up to 600 people/marriages/etc. Landscape is a backyard CAD program to create gardens/landscapes. Loom simulates an 8 harness loom; experiment with pattern design in an instant feedback environment.

**WB98: Business** - Includes BBasell a nice, powerful database; BizCalc-a personal or mortgage loan calculator with amortization capabilities, Loop-a flowchart maker, Formmaker - design professional looking forms on your Epson LQ-2500 compatible printer.

**WB97: Molecule3D** - An interactive 3D solid modeling program for molecules; creates stunning 3D pictures of molecules. Disk also includes a mailing list manager.

**WB96: Dupers** - Contains XcopyIII & Nib which will backup copy-protected programs. FreeCopy removes copy protection from several programs, and SuperDuper will crank-out fast AmigaDOS copies.

**WB95: Checkbook Accountant 2.0** This program is definitely commercial grade; we've seen many checkbook programs and this is absolutely the best. Full budgeting, transaction recording and report generation.

**WB93: Workbench Extras #2** This disk contains the utilities that Commodore should have shipped with the Amiga; VirusX4.0, Snap, FixDisk (recover corrupt/deleted files), Disk Optimizer (floppy & hard), MachIII (screen blanker, hotkey, mouse accel, macro, clock utility), GOMF (a gurbuster) and PrintStudio.

**DD81: Arexx Tutorial** - Includes several sample Arexx scripts and sample programs. Also includes APig; a library that gives you access to intuition from within Arexx scripts.

**DD80: VFont System** - A font rendering system that extends the Amiga so that it will be able to use vectorized outline fonts. Fast rendering, rotating, and sizing. Use in your own programs!

## DATA AND DISKS

**FD5: Tactical Games** - BullRun - a Civil war battle game, Metro you play the role of a city planner. Build wisely and your system will be a success, but poor planning will lead to disaster and financial ruin. Very very habit forming.

**FD6: GAMES!** - This disk is chock full of games including: Checkers, Clue, Gold - A new slide the pieces puzzle, Jeopard - An enhanced version of Risk, RushHour - Surprisingly addicting, and SpaceWar - Best described as a cross between Combat-Tanks and asteroids.

**FD7: PACMAN** - This disk contains several pacman type games including: PacMan87, MazMan and Zonix.

**FD9: Moria** - This has great graphic controls, multiple spells, similar to Larn and Hack. Play time several weeks!

**FD10: HackLite** - A dungeon adventure game. Considered a must-have classic. This is the second release of this game on the Amiga. Great graphic interface. Play time several weeks!

**FD11: Las Vegas and Card Games** - Las Vegas Craps - The best Las Vegas Craps simulation every written for any computer. Contains extensive HELP features, Also Thirty-One, VideoPoker and more.

**FD12A,FD12B: Star Trek, The Game** - This is by far the best Star Trek game ever written for any computer. It features mouse control, good graphics, digitized sound effects and great gameplay. Counts as 2 disks. Req. 1Mb and two drives (or hd).

**FD13: Board Games** - contains multiplayer Monopoly, Dominoes, Paranoies, and others.

**FD14: Dungeon Master Hints and Arcade Games** - DM maps, spells, item location, and hints and more, also on this disk, Hball - an arkanoid/breakout type game, Trix - a Qix type clone.

**FD17: Educational Games** - This disk includes several games for the younger members including geography, math, science, and word games, also includes Wheel of Fortune.

**FD20: Tactical Games** - MechForce(3.72): A game that simulates combat between two or more giant, robot-like machines. Simple words can't begin to give you the feel of piloting a 30 - 40 foot tall, fire breathing, earth shaking colossus that obeys your every whim.

**FD26:Arcade Games** - Marble\_slide, this is a truly commercial quality game. Similar to a Lucas game named PipeDreams, excellent playability and entertainment, Mutants, a small version



of the arcade game of the same name, also SuperBreakout a pong/arkanoid type game.

**FD27: Arcade Games** - This disk is loaded with some great games. Includes, Raceorama a great racing car game with ten different courses, MiniBlast a helicopter gunship type clone, Shark in the same class as frogger, and SBreakout the original breakout with more.

**FD29: Shoot'em up's** - WWII - you're the pilot of a WWII plane flying through enemy territory, you've just been spotted, good luck on your mission, SpKiller - try and penetrate enemy lines with this game, and Retaliator - another great game.

**FD31: Games!** - Air Traffic Control - a good ATC simulation game, Black Jack Lab - a full featured set of card games, Chessfel - play chess with your friend in distant and remote places with this game and a modem, labyrnth - a well done text adventure game (like an infocom game), and MouseTrap - a 3d maze game.

**FD32:Flight Simulator** - Includes an instrument flight simulator for a DC10.

**FD33: Arcade Games** - Freddy a mario brothers type of game, Gerbilis a target practice game, Pipeline a German interpretation of Pipe Dreams, Tron a light cycles version, and wetroids a wonderful version of asteroids with a hilarious twist.

**FD35 Omega (v 1.3)** - A new outstanding dungeon and outdoors adventure game in a similar vein as hack, rouge, and moria. This version is considerably faster and better than all previous versions. Play time several weeks or months.

**FD37a & b:Tactical Games** - Empire (2.2w) This great game comes highly recommended. With a full-graphic front end.

**FD38:Games** - Cribbage Master - A great cribbage game and tutor, Spades - a well done card game, ChineseCheckers - A computer version of this classic, Puzz - a slide piece puzzle game and construction set.

**FD44: Game** - Mechflight is an out of this world role-playing adventure comparable to hack and moria. The setting, interplanetary colonies and space stations. In your quest to explore the world, take time out to liberate bad guys of their most valuable possessions, engage in a mortal combat or two against robots and alien life forms, pick up a new amiga 9000. Most of all, don't forget to stay alive...

**FD49:Chaos Cheats** - This disk contains an everything you wanted to know about cheat set for Chaos Strikes Back, including full maps, spells, object locations, super characters and more.

**FD50: Submarine Game** - Sealance, one and a half years in the making, this is an outstanding submarine tactical game. Commercial quality, highly recommended.

**FD52: Classics Games** - PetersQuest a well done Mario brothers type of game, Jymbo a two player missile command clone, and Vstank a tank commander game.

**FD53: Great Arcade** - On this disk is a wonderful implementation of the ever popular classic arcade game Defender. Also contain Air Race a WWII flying ace arcade game, and Psycoblast new creation idea game.

**FD56: Arcade** - Includes SpaceWar, HueyRaid a well done helicopter arcade game, and PowerPong a great expanded pong game.

**FD57: Arcade Games** - Includes 2 true commercial quality games. MegaBall is the successor to Ball; features 5 full musical scores, multiple levels and addicting gameplay. Gravity Attack is a psychedelic trip through several different worlds - each distinctly different.

**FD58: GAMES!** Includes Steinschlag; a great Tetris clone from Germany with music. SCombat: simulate battle between up to 40 players & monsters. Imperium Romanum: Battle up to 4 players for control of the Mediterranean in this Risk-esque game.

**FD59: Game Potpourri** Xenon III is an almost exact clone of the commercial game of the same name...a great shoot'em up. Crossword will take lists of words & automatically generate crossword puzzles for any Epson compatible printer.

**WB4:Telecommunication** - This disk contains several excellent pd communication programs designed to get you on line quickly and easily. Access (1.42) - A very nice ANSI term program based on Comm v1.34, but with the addition of transfer protocols, Comm (1.34) - Last version of one of the best public domain communications programs ever made on the Amiga, Handshake (2.12a) Handshake is a Full featured VT52/100/102/220

**WB5 - Fonts #1** - Several fonts (35) for the Amiga, also included are five PageStream fonts, and ShowFont - a font display program.

**WB6: Video Fonts #2** - ShowFont(4.0) This program allows you to quickly and painlessly view all 256 characters in a typical font. Large AmigaDOS system fonts (many up to 56pts).

**WB7: Clip Art** - This disk is loaded with black and white clip art. Art includes, trees, watches, tools, US and State maps, and more.

**WB9:Icons** - Truly a multitude of various types and kinds. Also includes IconMiester, IconLab, and others great utilities to help generate icons.

**WB10:Virus Killers** - The latest and best VirusX(4.0), Kv(2.1), and ZeroVirus(1.3).

**WB11: Business** - Clerk(4.0), finally a full featured business accounting PD program for the small to medium company. Includes receivables, payables, end of month and much more.

**WB12: Disk Utilities** - This great disk is loaded with wonderful utilities for everything including making disk labels, disk cataloging, disk optimizing, disk and file recovery archive and organizing, and all sorts of file manipulation. A must have!

**WB13: Printer Drivers and Generator** - over 70 different drivers, and if these don't do it, with PrtDrvGen you can make your own.

**WB14: Video** - on this disk are several utilities for the video

\$5.95 ea  
1-9 Disks

\$4.95\* ea  
10-24Disks

\$3.95\* ea  
25+ Disks

\* Anti-Virus Free on all orders with 15 or more disks!

enthusiast. We have included multiple slates, video titling, Bars and Tone, Gray Scale, Screen fades and swipes, Interface toggles, and SMPTE Calculators. Also on this disk is a full featured video cataloging program.

**WB15: Business** - This disk contains a spreadsheet, a database, a project/time management program and financial analysis (stocks).

**WB16: Business** - This disk contains an inventory manager, a loan analysis program, a great calendar/scheduler, a rolodex program, and pennywise a good "Cash Book" accounting for home or office.

**WB18: Word/Text Processors** - This disk contains the best editors. Includes,TextPlus (v2.2e) a full featured word processor, Dme(v1.35) a great programmers editor with strong macro features, TexED(v2.8) an enhanced Emacs type editor, and a spell checker.

**WB20: General Interest** - DiskSalv V1.42 a disk recovery program for all Amiga file systems. FixDisk V1.0 another file recovery program with features DiskSalv doesn't have. 3DLook gives a 3D appearance to your WorkBench, Clean V1.01 a program to de-fragment memory, Tracer - trace any part of an image.

**WB22: Fonts #3** - Several more great fonts. These, like the other font disks work great with Dpant and WYSIWYG word processors.

**WB23: Graphics and Plotting** - Plot (20b) a three dimensional mathematical function plotter. Can plot any user defined function, BezSurf2 - produce awesome pictures of objects one could turn on a lathe. Can also map any image files onto any surface that it can draw. Now compatible with most 3D packages, and VScreen - makes a virtual screen anywhere, great for DTP.

**WB25:Educational** - On this disk are two programs that can generate maps of differing types, World Data Base uses the CIA's data base to generate detailed maps of any entered user global coordinates. Also Paradox a great demonstration of Albert Einstein General Theory of Relativity.

**WB26: Disk Utilities #2** - MrBackup, KwickBackup - two well done utilities to help with harddisk and floppy disk backups, FileMast - a binary file editor, LabelPrinter - Disk label printer with very powerful features.

**WB27: Nagel** - 26 Patrick Nagel pictures of beautiful women.

**WB29: Graphics and Sound** - This disk has several different Mandelbrot type programs for generating stunning graphics. Includes, MandelMountains - a realistic terrain generator, Fracgen - generated recursive fractals from user input, Mandelbrot and Tmandel - two fast mandelbrot generators, also Mostra - the best IFF display program to date, will display ALL IFF's including Dynamic HAM, and Sound - a great IFF sound player, will play anything. Try this disk!

**WB33:Circuit Board Design** - several terrific routines for the electronic enthusiast, including PCBtool - a circuit board design tool, LogicLab - circuit logic tester, and Mcad (1.26) a well done new release of this PD CAD program, now comes with predrawn common circuit components for insertion into schematics.



**Circle #140 on the Reader Service Card**



style *colour*. Other preferences of this type might dictate standard forms of some proper names (such as 'Amiga-DOS' rather than 'AmigaDos' or 'Amiga-dos'), punctuation style (punctuate inside rather than outside quotes), and the choice of certain words over variant forms ('while' instead of 'whilst', 'okay' instead of 'OK').

## Well, So What?

Rather than letting the teaser engulf and overwhelm this whole article, let's now abruptly open our eyes to the following hard truth: *What every writer needs is a checking program attuned to his or her own particular favorite errors, one that is, moreover, versatile enough to check things like variant word forms and punctuation... and an even harder truth: If you want such a program, you're going to have to write it.*

Though I'm about to suggest (or am in the middle of suggesting) that you *should* write such a program, I admit that writing a customized spelling and grammar checker sounds like a pretty big job. But for several reasons we can cut it down to a very tidy size.

One reason is that you probably don't often make too many types of mistakes beyond what your existing software knows how to detect. If you take aim at those mistakes and no others, you can get by with a lot less generality than is required of programs designed for mass consumption.

Another reason is that you have the option of writing in ARexx, a language not favored for commercial development because it can't usually come close to matching C or assembler for execution speed. But ARexx programs are easy to write and easy to test, and ARexx is packed with nifty string-handling functions that are just the ticket for the kind of program we're contemplating.

A final reason why this particular program is going to be easy to write is that you can leave out the hard bits if you want to. If some particular type of checking you'd like to include would be too difficult to code, postpone it or forget it. Even the easy stuff will be more than useful enough to justify the existence of the program.

```
/* Copy updated line to output file */
call writtech('outfile',line || substr(" "0a'x,endlf + 1,→
1-nobrk))
end

call close('outfile')
call close('docfile')

/* Delete old .bak if any, rename original as .bak, and .tmp as
original */
if exists(arg(1)'.bak') then address command 'delete quiet→
"arg(1)'.bak"
address command 'rename "'arg(1)'" "'arg(1)'.bak"'
address command 'rename "'arg(1)'.tmp"' "'arg(1)'"
exit

/* editword - Pass the nword'th word of 'line', and 'newtx', to
submit, but ignore punctuation at start and end of word. */
editword: procedure expose punct cw
  parse arg line, nword, newtx
  oldtx = word(line, nword)
  start = wordindex(line, nword) + verify(oldtx, punct) - 1
  oldtx = substr(line, start, length(strip(oldtx,'b',punct)))
  return edit(line, start, oldtx, newtx)

/* edit - Offer newtx as substitute for oldtx, from start
offset in line. */
edit: procedure expose cw
  parse arg line, start, oldtx, newtx
  newtx = fixcase(oldtx, newtx)
  return submit(line, start, length(oldtx), newtx)

/* submit - Show unmodified line with proposed replacement string
below. If user okays, insert replace string at 'start' deleting
'len' characters. If doing a replace changes the word count in the
line, update the global cw variable so that the next word
considered is the next in due sequence. */
submit: procedure expose cw
  parse arg line, start, len, newtx

  invrs = '1b'x'[7m'; roman = '1b'x'[0m' /* inverse, normal */

  /* If newtx is empty, display '[DEL]' beneath line instead */
  if newtx = '' then del = '[DEL]'; else del = ''

  /* Display line with oldtx inverted, then show newtx (or [DEL])
on line below with suitable indent. */
  say insert(invrs, insert(roman, line, start + len - 1), start - 1)
  say copies(" ",start - 1)newtx || del

  do until yn~='?'
    options prompt "Change [?/N/y/w/l/a]? "; pull yn 2

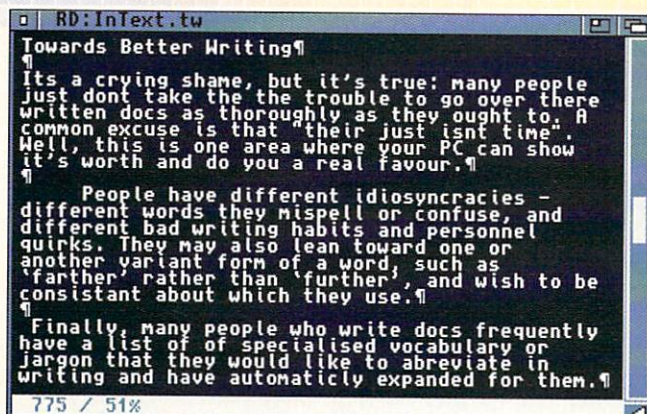
    if yn='Y' then do
      /* YES - do the offered replace */
      line = insert(newtx, delstr(line, start, len),→
start - 1)
      options prompt "Change [?/N/y/w/l/a]? "; pull yn 2

      if yn='Y' then do /* YES - do the offered replace */
line = insert(newtx, delstr(line, start, len), start - 1)
```

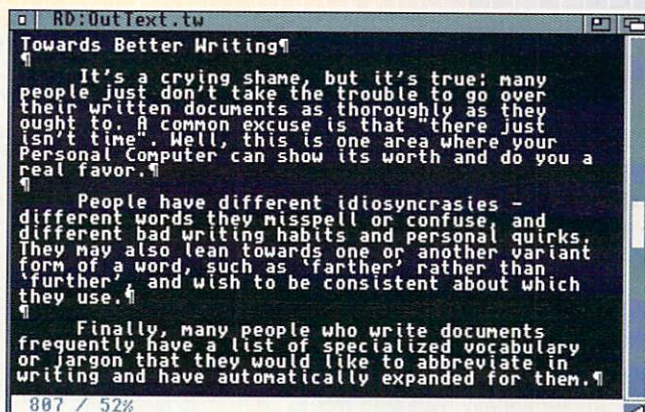
continued...



# .info technical support



Uncorrected text by an imaginary author. Though the density of errors in this document is artificially high, the errors themselves are of the kind often found in real writing.



The corrected text. All the errors have been fixed interactively during a run of *Proofer*. In addition, the paragraph indentation has been automatically made uniform throughout the document.

## Getting Under Way

For the rest of this article, we'll examine an ARexx program of the type I've been talking about. It's called *Proofer* (you might file it as *rexx:proofer.rexx*), and it's designed specifically to correct the typical writing

errors, and help enforce the preferences of an imaginary author, a specimen of whose work appears as Figure 1. Ironically enough, the selected passage is itself on the subject of text correction.

This program works on text files

saved from a wordprocessor. Save your document as a text file, then run *Proofer* on the saved file. After proofing, you can reload the file into the wordprocessor for further editing or to print it out.

Because of magazine space limita-

## Introducing...

# DataFlyerIDE<sup>TM</sup>

The fastest controller money can buy...and not much money.

**800k DiskSpeed test, expandable to 8 megabytes,\* use low cost AT type hard drives and its only \$89.95**

AMAXII and Syquest compatible, mouse button game switch, optional plug-on 8 megabyte RAM card, "Auto-Install" format software, full year warranty and all at a great price.

|                |           |
|----------------|-----------|
| DataFlyer 2000 | \$89.95   |
| DataFlyer 500  | \$179.95  |
| DataFlyer 1000 | \$189.95  |
| DataFlyer RAM  | \$119.95* |

**EXPANSION  
SYSTEMS**

510 656-2890

ExpansionSystems 44862 Osgood Rd. Fremont California 94539 U.S.A. Fax 510 656-3152 DataFlyer IDE Dataflyer 500, DataFlyer RAM are trademarks of Expansion Systems ©1991 Expansion Systems. \*DataFlyer RAM price is without memory. This ad is small but so are our prices.



tions that it already contravenes, *Proofer* as listed here checks for only a small number of possible errors, and even those are probably not *your* errors. However, it should serve as a useful model that you can adapt and extend. *Proofer* provides several types of error detection:

- known common misspellings
- inconsistent usages ('whilst' rather than 'while')
- abbreviations that should be expanded
- unintentionally repeated words
- inconsistent paragraph indentation

## The Word-list

The first three types of error are handled by a common mechanism.

*Proofer's* main loop reads a source file in short chunks of usually a few words each, and considers the words in each chunk one by one. Each word is checked to see if it occurs on either of two lists, implemented as AREXX compound variables: the whole-word list *wds* and the part-word list *pwd*. Here is a typical entry in the *wds* list:

*wds.their* = 'THERE'

Every variable formed on the *wds* stem is potentially an error. To test whether a particular word *w* from the input file is one of the troublesome words on this list, it is only necessary to check whether *wds.w* has as its value a non-empty string. If the current word in the input text is 'their,' we will check *wds.their*, learn that it is non-empty, and offer the user the chance of replacing it interactively with the likeliest correction, 'there.' This is not automated error correction - it is merely machine-assisted. Assuming that most errors are made in haste rather than ignorance, though, this type of correction is likely to produce the most accurate final output attainable.

Other entries on the *wds* list can be used to flag possible inconsistent usages and to expand abbreviations. Normally the equivalence words in the list are given in upper case (like 'THERE' above), then converted to match the case of the input word by the substitution routine. If the input word is all upper case, though, as in an abbreviation like 'PC,' the equivalence string ('Personal Computer') is substituted

```

cw      = cw + words(newtx) - 1
      end
      else if yn='W' then do /* WORD - change word by hand */
        options prompt "Enter substitute word: "
        parse pull newtx
        line = insert(newtx, delstr(line, start, len), start - 1)
        cw   = cw - 1
      end
      else if yn='L' then do /* LINE - change entire line */
        options prompt "Enter replacement line:''0a'x"> "
        parse pull line
        cw = 0
      end
      else if yn='A' then /* ABORT - exit script */
        exit
      else if yn='?' then /* ??? - show what options mean */
        say "N=NO (default) y=yes w=input word l=input line→
a=abort"
      end

      return line

/* fixcase - Match case structure of wnew to that of wold, either all
UC, all LC, or initial UC; wnew is assumed to be UC initially. */
fixcase: procedure
  parse arg c1 2 c2 3, wnew /* c1,c2: first 2 chars of wold */

  if datatype(c1,'m') then do
    if datatype(c1,'l') then /* c1 lower? assume all lower */
      return lower(wnew)
    else if datatype(c2,'l') then /* c2 lower? assume init. cap */
      return left(wnew,1)lower(substr(wnew,2))
    end

  return wnew /* leave in upper */

/* lower - translate string to lower case; doesn't handle alts */
lower: procedure
  return translate(arg(1),xrange('a','z'),xrange('A','Z'))
/* end of program listing */
```

directly without case conversion.

In order to do direct look-up on the input word, entries on the *wds* list can be whole words only. That becomes cumbersome for words that may take a variety of prefixes and suffixes, such as 'favor,' which is the invariant part of a host of words such as 'favored,' 'favorite,' 'disfavor' and 'favorable.' It would be far too much work to handle all these variations by creating separate whole-word entries. There are two obvious alternative approaches. One would be to make the program smart enough to find the 'core' word in each input word by stripping suffixes and prefixes automatically. This approach would be interesting to explore, and might turn out to be more efficient than

the one I've adopted, but would also have required more code.

Instead, *Proofer* tests each input word to see if it contains as a substring any of the entries on the *pwd* part-word list. Since we can't use the input word to address the contents of the list directly as we did with the whole-word list, the *pwd* list is indexed numerically, with two entries - the 'danger' word and the proposed substitute - for each index value. To guard against accidentally using the British spelling for any word containing the substring 'favor,' we set up an entry in *pwd* like this:

*pwd.1* = 'FAVOUR'; *pwd.1.a* = 'FAVOR'

Because of this entry, any occurrence of 'favour' in the input text, either



# .info technical support

1. The start of a *Proofer* run. The first two lines of the input document (one of which is blank) have passed scrutiny, but the third line uses *it's* and *its*, both of which are on the list of 'danger' words. As it happens, only the first usage is incorrect in this particular line. The user will continue the dialogue by pressing Return, rejecting the proposed substitution. The *w* and *l* options shown in the prompt let either the current word or the current line be replaced completely from keyboard input. The *a* option aborts the run altogether.

2. A repeated word is flagged in the input text. Since the substitution text is the null string, *Proofer* displays the special string '[DEL]' at the site of the proposed change.

3. Though it is not an error but an abbreviation, 'PC' is handled in exactly the same way as the errors shown previously.

4. The word 'idiosyncrasy' is sometimes spelled wrongly with a 'c.' By putting 'idiosyncrac' on the part-words list, the safe form 'idiosyncratic' is ignored.

1  
6.RD:> rx proofer InText.tw  
Its a crying shame, but it's true: many people  
It's  
Change [?/N/y/w/l/a]?  
Its a crying shame, but its true: many people  
its  
Change [?/N/y/w/l/a]?

2  
just don't take the the trouble to go over there  
[DEL]  
Change [?/N/y/w/l/a]?

3  
Well, this is one area where your PC can show  
Personal computer  
Change [?/N/y/w/l/a]?

4  
People have different idiosyncracies -  
idiosyncras  
Change [?/N/y/w/l/a]?

**NEW!**  
Version 3

## MAVERICK for the AMIGA

### Five Years Of Experience On A Single Disk

When we started making Commodore backup products, we started making history. Our Maverick for the Commodore has become the single most successful archival utility system ever created for the C64 C128 computers. We pioneered innovations that made Maverick the ONLY logical choice for the serious user.

History is repeating itself.

Our new Maverick for the Amiga is a ground breaking product! It is unlike anything you've ever seen for the Amiga before. You use it without fumbling for pull-down menus or searching through overlapping windows. The Maverick Amiga screen is a clean, modern control panel designed to allow you to intuitively operate the system as if it were a physical piece of hi-tech equipment.

Options abound. These include features like:

- ★ Hypercopy: High speed, effortless, error free data duplication.
  - ★ Parameters: Our own custom routines backed by 5 years of experience.
  - ★ OverRide: A new tool that makes a program useable on a hard drive by COMPLETELY de-protecting it!
  - ★ Inspector: Our MFM track editor featuring whole track or data block modification capability macros for automation and best of all - Backup Buddy compatible!
  - ★ 'Backup Buddy' support to allow easy, reliable backups of some of the toughest to duplicate titles on the market.
  - ★ Over 100 new parameters keep you up to date with today's software releases.
- There's more: For a minimal fee, registered Maverick owners can upgrade their system to the newest version, including new parameters every 90 days! Maverick Amiga was actually designed with future expansion capabilities built right in. And experienced users can even create and store their own custom copiers, accessible right from the main control panel, just as if they were built into Maverick from the factory! When you're ready to spend your hard earned money for an Amiga backup utility, keep this in mind: There are lots of copiers on the market, but there's only one complete archival utility system — Maverick.

### MAVERICK AMIGA V3

ONLY **\$39<sup>95</sup>** + S&H

Available from your local dealer or contact us directly:



**A MAN'S BEST FRIEND  
IS HIS DOG  
AN AMIGA'S  
BEST FRIEND IS THE  
'BACKUP BUDDY'™**

Ready to add another drive to your system? We've got some good news for you: for nearly the same price as an ordinary drive, you can buy the brand new Maverick Amiga Backup Buddy drive!

The 'Backup Buddy' drive (sold ONLY to registered Maverick Amiga owners) is a superb Golden Image drive that we've worked our special magic on. We've added our own custom engineered speed control circuitry to create a unique new tool. Used alone, the 'Backup Buddy' is as fast, reliable, and compatible as any other Amiga external disk drive. But, used with the Maverick Amiga, the 'Backup Buddy' becomes the newest weapon in the Archival Utility System arsenal, easily letting you backup titles that could NEVER be reliably duplicate before now! The 'Backup Buddy' is another demonstration of our commitment to the Maverick tradition: Always be the best.

### THE 'Backup Buddy' DISK DRIVE

ONLY **\$149<sup>95</sup>** + S&H

Available Only From Software Support International  
to registered Maverick Amiga owners.

## SOFTWARE SUPPORT INTERNATIONAL

2700 N.E. ANDRESEN ROAD • SUITE A-10 • VANCOUVER, WASHINGTON 98661

Write or call us for more information or our current  
catalog listing 1000's of items for your computer

**1-800-356-1179**



as a whole word or part of one, will be detected, and the user will be given the chance to replace it with 'favor.'

## Other Processing

One of the advantages of writing this kind of program for yourself rather than buying it off the shelf is that you can customize it in any way you please. Although the list-based substitution mechanism just described is the basis for most of what *Proofer* does, it is also fairly easy to add other mechanisms for particular jobs wherever they fit in.

To detect the common error of inadvertently repeating a word, which is one of the easiest to miss in EPR (Eyeball-based Proof Reading), it is only necessary to remember the previous word, and give the user a chance to delete the current word if it is the same. Once the main mechanism was in place, it was easy to incorporate this feature just by adding a couple of lines.

Enforcing a uniform paragraph indent was also easy to implement with just a line or two of extra code. The indenting of the sample text shown with this article is deliberately chaotic just to show that the standardization of the indent by *Proofer* actually works, but even in real life it's useful to be able to modify the indent from its original value uniformly throughout a document.

Other processing could be added to answer your own requirements. Not everything you might wish to do would necessarily be easy within the present structure of the script. For instance, *Proofer* as it stands does not offer an obvious way to test for phrases of more than one word. The capability of detecting phrases might be desirable, for instance if over-reliance on certain phrases tends to engulf and overwhelm the positive qualities in your writing. The deeper structural changes that such a capability would require are more challenging, but could be very interesting to undertake.

## ARexx To Go

There is a vast practical difference between a programming language like ARexx, in which the source program itself is interpreted at run-time, and a language like C in which the source program must be pre-compiled into an

executable file not readable by humans. The difference is adaptability. Writing a program in C gives you a number of advantages: greater efficiency, full access to the operating system, and the ability to run 'stand-alone,' to name only a few. But adapting a C program to your own changing needs is difficult, whereas adapting an ARexx program is easy. Whether or not you are interested in writing ARexx scripts from scratch, you can learn a lot about programming this way, and at the same time, build one-of-a-kind utilities not available in any store. ■

## A Simple Connection Tip

by Chris Zamara

If your Amiga's joystick has to share the joystick port with other devices or copy-protection dongles, you know what a hassle the constant unplugging and plugging-in can be. This is especially true for owners of Amiga 2000s, whose absurd joystick port location demands great skill and patience for every connection.

The best solution will cost a few bucks, but it will more than repay itself in saved time and frustration. Simply extend the joystick port with a standard RS232 DB-9 male/female cable. Radio Shack sells a high-quality six-foot unit (Stock No. 260-0117) for less than ten dollars. You can get similar cables from most computer supply or electronics stores. You can also use a less expensive Atari-compatible joystick extension cable, or even a joystick 'Y' connection cable, if you can find them. They are becoming somewhat rare.

With the female end of the cable permanently plugged into the computer's joystick port, all you have to deal with is the convenient male connector at the free end of the cable. Plugging and unplugging is more convenient, and the extra reach provided by the cable can make it easier to place devices where you want them. You'll also save wear and tear on your computer's built-in connector: better to have to replace the cable than send your computer in to the shop. If you use a 'Y' cable, you can even plug two devices into a single port

at the same time. This enables you to play two-player joystick games without unplugging the mouse, or you can add a trackball to the mouse port without unplugging the mouse. *Deluxe Paint* and other programs are perfectly happy with letting you use both controllers simultaneously!

Cautions: If you use a 'Y' connector with a dongle, you will probably have to unplug the dongle in order to make the controller plugged into that port work properly. And if you plug in an autofire joystick, make sure the autofire button is turned off when you run other programs. ■

## The Future of 24-bit Graphics on the Amiga

A guest editorial by Ben Williams

V.P. of Engineering  
Black Belt Systems

The Amiga, with its 12-bit color palette and 16 simultaneous colors in what is rather humorously called 'High Resolution' is more than a little dated in today's computer graphics marketplace. While you can indeed make some very good looking images with these limits, they pale when compared against a 1024x800 display with 256 18-bit colors, such as those produced by many common 'Super-VGA' cards for the IBM buss machines.

The Amiga now has three generally compatible display enhancement devices; 'generally' in the sense that they will work with all Amiga models. These three are the M.A.S.T. *Colorburst*, Digital Creation's *DCTV*, and Black Belt Systems' *HAM-E*. Both *DCTV* and the *HAM-E*, while providing a great deal more color resolution, are essentially low-resolution devices which trade potentially higher display resolution for one level or another of system compatibility; specifically, they can both display images when presented with a screen by any PD or commercial IFF viewer or IFF application. *DCTV* currently works only with the NTSC Amigas used in the North



American market. *Colorburst*, while not as compatible with the Amiga in the sense of working with standard IFF viewers or applications like *AmigaVision*, is capable of providing any Amiga with a high resolution (in the Amiga sense - about 736 usable pixels), full 24-bit display. Speaking now of final image quality only, the *Colorburst* is easily the 'king' of this trio.

For buss-oriented Amigas like the 2000 and 3000 series, several 24-bit quality boards are either available, or 'cooking.' These range from Impulse's *Firecracker 24*, which is your basic heck-of-a-nice-display, to Great Valley's *Professional Video Adaptor (PVA)*, which is your basic Rolls Royce of color - and priced accordingly. Other color cards of this type are rumored, and Progressive Peripherals has shown their *Rembrandt* card - which was very impressive indeed - at the AmiExpo shows.

All of this is great, but it tends to feel more than a little bit chaotic to the Amiga user, who simply wants color,

maximum software support for whatever hardware solution he chooses, and no worries about being 'orphaned' - the process of buying hardware and then watching the company that produced the display device either stop supporting it or disappear from the marketplace altogether.

## Commodore

Obviously, the best place for graphics improvement to come from would be Commodore itself. And you should know that they are indeed working on it - but it's going to take quite a bit of time before things are 'set in stone' and the new hardware makes it out to the consumer.

You can be sure that when and if CBM does come to market with a new chipset or a new Amiga with better graphics capabilities, you're going to be looking at some serious compatibility problems for lower level applications, like (as usual) games.

The question at hand, though, is

'What will they do, if and when will they do it?' I can't tell you that. But I *can* tell you what they should do, based upon what we know about the Amiga's limitations today. The obvious things first.

**More Colors:** The Amiga's palette is too small. Sixteen levels of intensity are far below the threshold at which your eye begins to see the intensity steps as a smooth range, rather than steps. 64 levels, which would require an 18-bit palette similar to a VGA card, are much better but still visible. 256 levels, derived from a 24-bit palette, is the goal - and this is so obvious that it's a pretty safe bet that CBM will be aiming right at it. This palette should not only be deeper, but 'wider' as well, with at least 256 entries (eight bits per pixel) available for use. I'd like to see a true 24-bit display; that is, 24 bits per pixel, but the current Amiga architecture would seem to rule that out, barring some magic or an entirely new machine to go along with the new chipset.

**More Spatial Resolution:** Output resolutions of 1024 x 800 are a

## DISTANT SUNS 4.0

### A PLANETARIUM OF UNSURPASSED VISUAL REALISM!

#### Awards and commendations...

1988 Consumer Electronics Show *Most Innovative Product*

1989 Amazing Computing *Reader's Choice Award*

1990 **Arthur C. Clarke** (2001: *A Space Odyssey*) commendation: "I'm really boggled - it's beautiful, especially when the lights are off. I'm totally awed by what you have done!"

1991 Amiga Devcon *Developer's Choice: Best Educational Program for the Amiga*

#### User comments on Distant Suns 4.0...

"Distant Suns is absolutely fabulous and extremely well done. Mike Smithwick (Distant Suns developer) should get industry honors!" — V.L., PA

"Best manual I have ever seen with a computer program! DS is so neat, I went out to buy Vistapro just because it is published by VRLI!" — L.R., IL

"Fabulous upgrade. Great service." — R.C., Ireland

"Excellent. Wonderful job. Did not think you could top 3.0." — C.M., AZ

"Best of its kind. Sight unseen, I'll buy any new program you put out." — P.R., NM

"Great. Keep on pushing our imaginations." — T.B., CO



Stars, planets, asteroids and comets. Make animations and display full screen space photos. Lunar and solar eclipses. AREXX. NTSC and PAL compatible. Requires 1 meg and 2 disk drives. Hard drive suggested. \$99.95 list price.

Virtual Reality Laboratories, Inc., 2341 Ganador Court, San Luis Obispo, CA 93401 • 805 545-8515

Circle #119 on the Reader Service Card



# .info technical support



A small change in resolution and number of colors can make a great deal of difference in your working environment.

reasonable goal. You can do fine CAD and artistic work at resolutions within this range. Again, I think it's very safe to say that CBM is aware of this, and aiming at it as a target (hitting such a target is another matter, but only time will tell).

## More of both at the same time:

Again, the bugaboo of the Amiga has been that while you can get a moderate screen resolution, you can't have much color at that resolution. This will likely be fixed at the same time.

Now, we need to get into some of the less obvious issues. One serious problem that has plagued the Amiga is that when the display is set for high resolution, and the maximum color availability is used also (16 colors), the system processor is 'locked out' of the display memory for the majority of the display frame. This results in a very serious impediment to display updates, and that affects anything you try to do. This problem should be a primary target for correction, and all the more so for a display with even higher resolution and more colors. The time it takes to update any display is a direct function of how many pixels there are to change, how many colors (bits) each pixel has, and how often the processors are allowed to 'get to' the display memory where the image data is being kept.

Another problem area is bitplane architecture. While bitplanes are great for some things, they really hurt certain types of processor-based graphics operations. The Amiga has always been a bitplane oriented machine, and I don't think that will, or should, change. However, it is time to add a 'corner turner' to the Amiga architecture. This would allow the processor to treat indi-

vidual pixels as if they were bytes, words, or longwords in one memory location, instead of the eight (or 16, or 24) discrete locations in memory that are required for a bitplane representation of a pixel.

## System Software

Should all or some portion of the above come to be, a critical area that will have to be addressed at the same time is the operating system software which will be 'layered' on top of it. This software is the means by which current software would be able to move into the newer graphics architecture with little or no compatibility problems.

The way the Amiga is now, accommodation has only been made for up to eight bits per pixel; that is a system software limitation, and creates a severe problem for those developers who would like to develop software that drives graphics hardware with more than eight bits. I believe this alone will limit any new Amiga graphics endeavor from CBM to eight bits per pixel maximum. Other than that, if developers follow the rules, there are no other inherent limits in the system software that would seriously impede future graphics hardware. There is nothing to stop you now from asking for a 2048x1600 screen, other than the simple fact that it won't fit on the display. Ditto, you can ask for a 256 color display - you just won't get it now, is all. But the important point is that the mechanism is there now, and you can write application software with that in mind. This may not seem like a very important point, but believe me, it is.

## The Brass Ring

Ultimately, Commodore should (and almost certainly will) derive a 'Device Independent Graphics' (DIG) specification. As soon as possible, this should be added to the Amiga system software, and then all future applications could use this new level of interfacing with the system graphics. This interface must be resolution and color-space independent. Why? Because this would allow you to run your application on anyone's graphics card, not just the graphics that are available directly from the Amiga hardware. If a DIG specification were in place today, you'd be able to run your Workbench on the Impulse *Firecracker*, or anything else.

For this reason, I'd like to see the DIG specification before CBM uses up a moment of its time developing software for new chips; not hardware, because typically that would be a separate effort. But the software people at CBM are the ones who have the 'keys to the palace,' if you will. Speaking as the vice president of a company (Black Belt Systems), whose business is graphics I can tell you flat out that we would embrace and work with a DIG specification without reservation of any kind - and the results would be useful to every one of our customers.

One thing that should be perfectly clear to every Amiga owner by now is the simple fact that aftermarket developers, such as GVP, MAST, Black Belt Systems, Progressive Peripherals, Impulse, or Digital Creations can all develop graphics hardware and get it to market in about the time it takes Commodore to sneeze. Amiga users already have a wide range of graphics



# .info technical support

hardware available to them. The only thing that's lacking to make those hardware solutions an integral part of the entire Amiga system is a DIG implementation, and that absolutely must come from CBM if we are to continue using the AmigaDOS operating system at all.

## And Finally...

I'll leave you with a short summary.

We know there are a number of hardware companies which have developed, or are developing graphics devices for your Amiga. We should also know, now, that without a DIG implementation from CBM those display devices will never be any more integrated with the Amiga than whatever each individual company can create on its own. New chips from CBM won't help your new GVP PVA board to run Workbench. Some additional support can be gained from other Amiga developers, but this is hardly the same as being able to run every application on

your whiz-bang graphics board with the feature you just had to have.

Although CBM should continue with hardware development in the form of a new chipset, the most benefit to the Amiga end-user (and indirectly, to CBM) would come from a DIG software effort. A new chipset means a very long delay - I don't think you'll see a machine on the market within 12 months of the appearance of this article that uses new chips, even being extremely optimistic about all production issues - and during that time, the Amiga will continue to be a second class citizen regarding graphics when compared to common PC or Mac displays. The longer that goes on, the more the Amiga, and the Amiga user, is hurt.

One thing that Amiga users and Amiga developers both have in common are a very strong wish to see the machine 'live long and prosper.' DIG is the most efficient method to the realization of that desire.

What can you do? It's really very sim-

ple. Write or FAX Commodore and tell them that you think the Amiga needs DIG, and you, personally or as a developer, or as a company, want DIG and you want it as soon as possible.

I believe that it's very clear where the priorities should be. Let's hope that CBM has the same amount of vision. For what it's worth, every graphics hardware developer I've spoken to on this issue concurs: DIG is the key to the Amiga's graphics future. ■

## Editor's Note

It is widely known in the Amiga developer community that Commodore is currently working on both a new, improved, upwards-compatible native graphics chipset for the next generation of Amigas and a Device Independent Graphics standard for a future release of the Amiga operating system. Neither is expected to have a release date announced any time soon.

Do you feel like the  
**Bridgeboard™** and the **Amiga®**  
are worlds apart?

Good News!!

The **Ambassador™**

has been appointed to establish efficient lines of communication. The **Ambassador** improves file transfer capability for both the Bridgeboard and the Amiga in a transparent fashion. The **Ambassador** is 100% software. No additional hardware to buy or install.

#### From the Bridgeboard:

- Directly access the Amiga-connected floppy drives as MS-DOS® drives from within most MS-DOS® programs.
- Receive up to a 100 times speed increase when using our version of the PC virtual hard drive partitions.

#### From the Amiga:

- Access MS-DOS formatted media using the same features as our five star rated product **CrossDOS™**.
- Access Bridgeboard-created virtual hard drive partitions (such as MakeAB and JLink files).



Suggested List:

**\$79<sup>95</sup>**

CrossDOS owner upgrades available.

If you need to read and write MS-DOS® disks but do not have a Bridgeboard, consider **CrossDOS™**. It allows the Amiga to directly read and write 360K, 720K and 1.44M\* MS-DOS® floppy disks. It can also access most MS-DOS® formatted hard disks. \*Requires additional drive hardware.

CrossDOS™  
is only:  
**\$39<sup>95</sup>**



**CONSULTRON**  
11280 Parkview Technical Support  
Plymouth, MI 48170 (313) 459-7271

Amiga is a registered trademark of Commodore-Amiga, Inc. Bridgeboard is a trademark of Commodore-Amiga, Inc. MS-DOS is a registered trademark of Microsoft, Inc.

Circle #143 on the Reader Service Card



**GAME PORT  
VIDEO  
MADNESS**

**ARE YOU HAVING A DEVIL OF A  
TIME FINDING AN RGB CABLE?!**

**SUPER  
NINTENDO  
(CALL)  
NEO-GEO  
\$24.00**

**SEGA  
\$24.00  
ROLAND  
SAMPLER  
(\$24.00)**

+ Shipping & Handling

**We Do Some Very Unusual Cables**

**REDMOND  
CABLE**

**For the Dealer Nearest You!**

**EAST COAST  
615-478-5760**

**WEST COAST  
206-882-2009**



Circle #132 on the Reader Service Card



# BlitzBASIC REVIEW

by David Martin

The number of BASIC language compilers and interpreters available for the Amiga is rather astounding when you consider that a version of BASIC has always come free with the computer. But perhaps it shouldn't be a big surprise. BASIC on the Amiga has needed updating for a long, long time. Even though MicroSoft AmigaBASIC is much better than the original ABASIC, neither comes even close to being an adequate programming language for the Amiga.

A slew of software developers have moved in to replace or improve the current BASIC with something more useful to the programmer. *BlitzBASIC* is such an animal. Unfortunately, it, too, is inadequate. While it can replace AmigaBASIC in some cases, it can't do so completely. This is because *BlitzBASIC* was not designed to write applications programs. But you might find it useful in writing games, animations, and other applications dealing with the Amiga's unique graphics capabilities.

## Environment

*BlitzBASIC* provides an integrated programming environment, featuring an editor with a built-in compiler and linker. You enter your program in the editor and compile it with a simple command. Errors during compilation are caught and pointed out to you for correction. The code created by the compiler can be run independently of the editor and shared with others.

The editor is feature-packed, offering a variety of the most-wanted functions such as cut and paste, search and replace, etc. A majority of editor menu functions are tied to hot keys.

While within the editor, multitasking is supported. However, when executing a



```
Blitz Basic Editor   Available mem:4386608   Largest:3406376

'dual-playfield demo
'this demo SHOWS how TO set up AND move a dual-playfield DISPLAY
'first, we need 2 SCREENS - 1 FOR each playfield
SCREEN 0,640,200,3
SCREEN 1,320,200,3

'now, turn on a dual-playfield DISPLAY
DISPLAY 320,200,0,1,1,0,1

'draw something TO the background SCREEN (AND SHOW it)
USE SCREEN 1
SHOWB 1,0,0
FOR a=10 TO 310 STEP 20
  LINE 0,199,a,0,1
  LINE 0,0,a,199,1
  LINE 319,199,a,0,1
  LINE 319,0,a,199,1
NEXT a
```

The  
*BlitzBASIC*  
editing  
screen.

*BlitzBASIC* program multitasking is temporarily disabled. I have also experienced some lockups and crashes of the *BlitzBASIC* editor and suggest that you do not trust it when running important applications.

## Features

*BlitzBASIC* offers a lot of support for the Amiga's special features and functions: screens, animation, and sound. All of these make *BlitzBASIC* exceptional for creating games, but it lacks features that would make it an exceptional all-around programming language.

*BlitzBASIC* handles many different types of screen formats, and it really shines in its ability to manipulate them. The size of the screen can be bigger than your monitor's display: *BlitzBASIC* supports display scrolling. This makes designing scrolling screens for arcade style games a snap.

*BlitzBASIC* is also very capable when handling sprites. Sprite (and playfield) images are stored in IFF format, which makes it easy to design such images with your favorite paint program. *BlitzBASIC* does not, however, support a means of sprite collision detection, which could have been very useful when designing and writing games.

Other features dealing with animation include the ability to manipulate another graphics object called a 'Blit' (sort of like a large sprite) and the use of double buffering, which can be used to improve animations.

Sound is quite important as a means of

feedback to the game player and also as a way to catch his or her attention. *BlitzBASIC* provides completely adequate IFF sound format support, and even comes with a simple music editor called 'Maestro.'

The manual supplied with *BlitzBASIC* is hardly adequate for a product of this nature. It is brief, and provides no information about programming the Amiga. Its own commands are not described well enough to determine their interaction on a programming level. The manual definitely needs improvement.

While the manual may be one of the worst features of *BlitzBASIC*, its example programs are one of its better features. The package comes with a disk of demo programs that adequately demonstrate the different *BlitzBASIC* commands.

## Conclusion

*BlitzBASIC* is a good idea that could have been much better. Its poor documentation is inexcusable in a product of this kind. It also lacks the ability to handle a variety of mathematical functions, which would be good not only for applications programs, but also for creating 'fun' programs like generating fractal images. It has the worst I/O facilities of any BASIC I have ever seen, and it does not support Amiga windows and pull-down menus.

My overall opinion is that you might consider *BlitzBASIC* for play, but not for work. It is far from being a serious computer programming tool. ▼

**BLITZBASIC**



**\$149.00**

**M.A.S.T.**

**1395 Greg St. #106**

**Sparks, NV 89431**

**702-359-0444**



# At Presstime

**W**e try to reserve this space for really, really exciting new stuff that we get in at the last minute. But this time we managed to shuffle things around and get all the new, exciting stuff - like *Toaster 2.0* and *Art Department Professional 2.0* - into the regular pages. Which leaves me with a dilemma... what do I do with a half page of blank paper?

Oh, I had hoped that something else would show up. We're waiting for Commodore to get us a copy of *AmigaVision 1.70Z*, for example. They've also promised the 2.0 upgrade of Amiga UNIX, but it's not here yet. We did just receive a beta copy of *Voyager* - it's a popular astronomy program for the Mac which has just been ported to the Amiga - but Tom wants to save it so he can lead off the New Products section with it next issue. *Professional Page 2.1* came in yesterday, and Benn and

Megan are playing with it. But they tell me there's really not that much new and exciting about it. Oh, there are a few changes, but nothing worth spending a half page waxing poetic about. *Foundation*, the long-awaited *HyperCard*-compatible authoring system from Impulse, just appeared this week. It looks good, from what little time I've been able to spend with it. But Harv Laser will give it a good going-over next issue in our Multimedia Roundup. So I think I'm just going to talk about v2.0 of the Amiga operating system.

Not that 2.0 is particularly new. People have been beta testing it for what seems like forever. As of this writing, it's still not quite out for public consumption, but is promised by the time this issue hits the newsstands. We haven't heard a suggested retail price yet for the '2.0 Enhancer Kit,' though we understand it might be as much as \$150. The box does include a Kickstart

2.0 ROM, new Workbench and Extras disks, and a nice manual. Still, that's a lot of buckazoids.

But you will probably want 2.0 anyway. Not only does it look nicer and more 'professional,' it provides you with a lot of new and improved utility programs. It also gives you ARExx, which would have cost you \$50 all by itself. Besides, when you start buying software that takes advantage of the 2.0 Kickstart ROM - like *ADPro 2.0* (see page 24) - you won't be able to live without it.

So despite all the delays and setbacks, despite the cost, 2.0 is simply a 'must-have,' and if you don't rush out and get it now you'll just end up buying it later. So go buy it.

Now let's hope Enhancer Kits really are available by the time you read this, so I don't look like a fool. Again.

- Mark

## Advertisers' Index

| Reader Service # | Advertiser                     | Page |
|------------------|--------------------------------|------|
| 107              | ASDG, Inc                      | 49   |
| 173              | Commodore Business Machines    | 9    |
| 143              | Consultron                     | 63   |
| 140              | Devware                        | 54   |
| 112              | Electronic Arts                | 13   |
| 110              | Expansion Systems              | 57   |
| 177              | The Grapevine Group            | 65   |
| 105              | Interplay                      | 11   |
| 103              | Konami, Inc                    | 7    |
| 104              | Konami, Inc                    | 5    |
| 116              | Konami, Inc                    | 29   |
| 117              | Konami, Inc                    | 37   |
| 130              | NewTek, Inc                    | 68   |
| 101              | Psygnosis                      | 2    |
| 115              | Psygnosis                      | 3    |
| 118              | Psygnosis                      | 31   |
| 106              | ReadySoft, Inc                 | 33   |
| 132              | Redmond Cable                  | 63   |
| 136              | Software Support International | 17   |
| 114              | Software Support International | 59   |
| -                | Strategic Simulations Inc.     | 67   |
| 113              | Three Sixty Pacific Software   | 35   |
| 119              | Virtual Reality Laboratories   | 61   |

## THE GRAPEVINE GROUP, INC.

### AMIGA

### COMPARE OUR PRICES

### AMIGA

#### UPGRADES-REPLACEMENT CHIPS

|                                     |                                |
|-------------------------------------|--------------------------------|
| Fatter Agnus (8372A)..... see below | AdRAM 540 1 Meg.....\$131.95   |
| 8362 Denise.....\$24.95             | Each add. Meg of RAM.....35.00 |
| 8364 Paula.....24.95                | AdRAM 2080 OK.....114.50       |
| 5719 Gary chip.....12.95            | Each 2 Megs of RAM.....70.00   |
| 8520A CIA chip.....14.95            | AdSCSI 2000.....127.50         |
| 1.3 Kickstart ROM.....24.95         | AdSCSI 2080 OK.....177.95      |
| 2.0 Kickstart ROM.....call          | Each Meg of RAM.....44.00      |
| A500 Keyboard.....see below         | AdSpeed.....203.95             |
| AT Bridgeboard (new).....536.00     | Flicker Free Video.....274.00  |

#### ICD PRODUCTS

|                               |                                |
|-------------------------------|--------------------------------|
| AdRAM 540 1 Meg.....\$131.95  | Each add. Meg of RAM.....35.00 |
| AdRAM 2080 OK.....114.50      | Each 2 Megs of RAM.....70.00   |
| AdSCSI 2000.....127.50        | AdSCSI 2080 OK.....177.95      |
| Each Meg of RAM.....44.00     | AdSpeed.....203.95             |
| Flicker Free Video.....274.00 |                                |

#### DKB PRODUCTS

|   |
|---|
| MegaChip 2000: Upgrade A500/A2000 to 2 Megs of chip RAM. Includes 2 Meg Agnus, chip puller & "Final Test" diagnostic disk plus rebate for your 1 Meg Agnus.....308.95 |
| Insider II board for A1000.....198.95   |
| with 1.5 megs.....259.95  |
| Multistart II: 3 pos. ROM switch 73.95  |
| Kwikstart II: ROM board for 1.2/2.0 (A1000 only).....68.95  |

#### MEMORY EXPANSION

|                                      |                               |
|--------------------------------------|-------------------------------|
| 1x4/80 SC Zip for A3000.....24.95    | 1x1/100 NS.....4.95           |
| 256x4/100 all ICD, GVP, etc.....5.50 | 1x8/80 SIMM.....43.95         |
| HP Laser Memory Board                | 1 Meg/2 Megs.....97.50/137.95 |
| 4 Megs.....199.95                    |                               |

#### POWER SUPPLIES

|   |                          |
|---|--------------------------|
| A500 45 watt power supply.....67.50   | 150 Watt "Big Foot" A500 |
| Universal Switching Power Supply with fan. An absolute must for those adding on more memory.....83.95 |                          |

#### MISC. PRODUCTS

|   |   |
|---|---|
| Printer Port Adapter (runs any CBM printer to PC).....29.95 | KB Talker-use any PC keyboard.....53.95 |
| Dr. Ami (software).....29.35                                | AMI Alignment System.....28.50          |
| Low cost/remanu.printheads.....Call                         |   |

## GRAPEVINE GROUP EXCLUSIVES

|   |  |
|---|--|
| 1802 Commodore Color Monitor/Composite with sound (for all C64s & Amigas).....\$119.95  |  |
| 1084 Commodore Color Monitor/RGB/Composite with sound (for all C64s & Amigas).....\$199.95  |  |
| Both refurbished by Commodore and look absolutely mint. Includes 90 day warranty. Excellent for all Video Toaster applications. Includes cables & instruction booklet.  |  |
| Amiga A500 Keyboard: Brand new. 90 day warranty. Super low price on this original keyboard.....\$67.50  |  |
| A500 PC Motherboard (new) Populated & tested. Available in NTSC or PAL mode.....\$214.00  |  |
| A2000 PC Motherboard (new) Populated & tested. 90 day warranty. Available in NTSC or PAL mode.....Call  |  |
| Enhanced Chip Set: 8373 Super Denise with productivity/scan mode, etc. A must with 2.0. (tentative price).....\$54.50   |  |
| Fatter Agnus (8372A) 1 MB w/ chip puller (a necessity), "Final Test" diagnostic diskette and instructions.....\$64.95   |  |
| Emergency Amiga Startup Kit - Sold to government PXs and now available to all. Kit has all major chips (Agnus), parts, schematic, cross reference grids, instructions and diagnostic software programs, etc (everything needed to get it started) Also includes the Amiga diagnostician.....\$99.50 |  |
| Rejuvenator A1000: Upgrade board with everything, including Meg of RAM, diagnostic software package (\$30 value), 1.3 ROM. This package beats everybody else's.....\$488.00   |  |
| Diagnostic Trouble-shooting Software (STU), a terrific selling diagnostic package by Custom Services, Inc. \$29.95  |  |
| Amiga Diagnostician - Diagnose & fix up to 28 common problems, comes with software and booklet.....\$14.95  |  |

### SEND FOR OUR FREE 36 PAGE CATALOG



3 Chestnut Street • Suffern, NY 10901  
Order line only 1-800-292-7445



Customer Service (914)357-2424 Fax (914) 357-6243  
Prices subject to change Add UPS charges to above Hours: 9-6 EST M-F We ship worldwide





# BRYCE

ROCKETSCHLOCK PART II

BY GREGORY CONLEY

The Starship Aginad under seige, Orion sector...

Shoot! Go away!  
Beat it...

CAPTAIN, THERE'S AN INCOMING  
MESSAGE FROM  
AN ADMIRAL BUG BLARNEY!

CAPTAIN BRYCE, YOU PATHETIC LITTLE  
WEENIE, GIVE IN TO THE FARCE OR DIE!

COMMODORE CENTRAL  
IS STILL BUSY!

THERE'S GOT TO BE ANOTHER  
WAY OUT OF THIS MESS!

ANOTHER INCOMING  
MESSAGE, CAPTAIN...

FAZJUR, BEH!

CAPTAIN! THERE'S A HUGE MASS OF  
UNIDENTIFIED SHIPS ON A COLLISION  
COURSE WITH OUR LOCATION!

THIS IS BARK BRUNNINGTON  
OF THE TRI-PARTY USERS ALLIANCE.  
SOMETHING WONDERFUL IS GOING TO HAPPEN!

FAZJUR, BEH?

JEEPERS!

UH-OH!

ISBA

THE ALLIANCE HAVE BOARDED,  
REPAIRS ARE UNDERWAY!

COMMODORE  
CENTRAL,  
HOLD PLEASE...

NICE LASER, HARV!

ONCE AGAIN THE USERS ALLIANCE  
SAVES US FROM EXTINCTION!

Gregory Conley can be contacted by writing: Gregory Conley, 17320 Laverne Avenue, Cleveland, Ohio 44135



# FREE Product Info From .info!

To receive free information from participating advertisers in this issue:

Circle the reader service numbers on the card below of the advertisers which interest you.

Fill in your name and address where indicated.

Attach the proper postage and drop it in the mail.

**READER SERVICE CARD #45 is valid until February 29, 1992. ONE**

Fill out this card carefully. You may check more than one answer to the questions at right. PLEASE PRINT.

Mr.

Ms.

Name \_\_\_\_\_

Company \_\_\_\_\_

Title \_\_\_\_\_

Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

(\_\_\_\_\_) \_\_\_\_\_ (\_\_\_\_\_) \_\_\_\_\_  
Phone Fax

A. Which type of Amiga do you own?

- 1 ☐ Amiga 500 4 ☐ Amiga 2500  
2 ☐ Amiga 1000 5 ☐ Amiga 3000  
3 ☐ Amiga 2000 6 ☐ None

B. Which of the following software products are you likely to purchase within the next year?

- 7 ☐ Desktop Publishing  
8 ☐ Wordprocessing  
9 ☐ Video  
10 ☐ Graphics/Animation  
11 ☐ Sound/Music  
12 ☐ Productivity  
13 ☐ UNIX  
14 ☐ Entertainment  
15 ☐ Educational

C. Which of the following hardware products are you likely to purchase within the next year?

- 16 ☐ Mass Storage 19 ☐ Video Hardware  
17 ☐ Accelerators 20 ☐ Monitors  
18 ☐ Printers 21 ☐ Other

D. What applications are your primary interests?

- 22 ☐ Desktop Publishing  
23 ☐ Wordprocessing  
24 ☐ Video  
25 ☐ Graphics/Animation  
26 ☐ Sound/Music  
27 ☐ Productivity  
28 ☐ On-line Services  
29 ☐ UNIX  
30 ☐ Entertainment  
31 ☐ Educational

E. How did you receive this copy of .info?

- 32 ☐ Subscription  
33 ☐ Newsstand  
34 ☐ Borrowed  
35 ☐ Library, etc.

101 106 111 116 121  
102 107 112 117 122  
103 108 113 118 123  
104 109 114 119 124  
105 110 115 120 125

151 156 161 166 171  
152 157 162 167 172  
153 158 163 168 173  
154 159 164 169 174  
155 160 165 170 175

201 206 211 216 221  
202 207 212 217 222  
203 208 213 218 223  
204 209 214 219 224  
205 210 215 220 225

251 256 261 266 271  
252 257 262 267 272  
253 258 263 268 273  
254 259 264 269 274  
255 260 265 270 275

301 306 311 316 321  
302 307 312 317 322  
303 308 313 318 323  
304 309 314 319 324  
305 310 315 320 325

126 131 136 141 146  
127 132 137 142 147  
128 133 138 143 148  
129 134 139 144 149  
130 135 140 145 150

176 181 186 191 196  
177 182 187 192 197  
178 183 188 193 198  
179 184 189 194 199  
180 185 190 195 200

226 231 236 241 246  
227 232 237 242 247  
228 233 238 243 248  
229 234 239 244 249  
230 235 240 245 250

276 281 286 291 296  
277 282 287 292 297  
278 283 288 293 298  
279 284 289 294 299  
280 285 290 295 300

326 331 336 341 346  
327 332 337 342 347  
328 333 338 343 348  
329 334 339 344 349  
330 335 340 345 350



## SUBSCRIPTIONS

| 11 Iss.   | 22 Iss.                       | 33 Iss.                       |
|---|-------------------------------|-------------------------------|
| <b>1 Year</b><br>only   | <b>2 Years</b><br>only        | <b>3 Years</b><br>only        |
| <b>\$26<sup>00</sup></b>  | <b>\$47<sup>50</sup></b>      | <b>\$65<sup>00</sup></b>      |
| <b>you save</b><br><b>40%</b>                                       | <b>you save</b><br><b>45%</b> | <b>you save</b><br><b>50%</b> |
| Canada/Mexico: add \$8.00 per year<br>Foreign: add \$24.00 per year |                               |                               |
| <b>Card # or payment MUST accompany order. We do not bill.</b>      |                               |                               |

## BACK ISSUES

**\$5.50 EACH (\$6.50 outside USA)**  
CIRCLE THE ISSUES YOU WOULD LIKE:

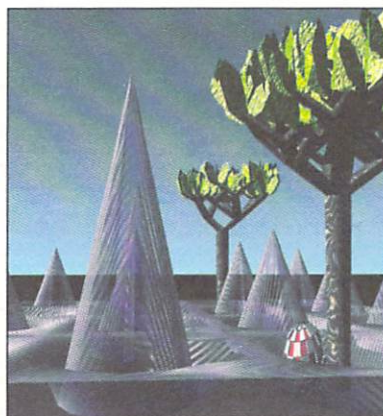
10 11 12 13 14 15 17 18  
19 20 22 23 24 25 26 27  
28 29 30 31 32 33 34 35  
36 37 38 39 40 41 42 43  
44

(note: issues #10-31 cover Amiga & C64.  
issues #32 on are Amiga-only.)

SUBSCRIPTION \$ \_\_\_\_\_

BACK ISSUES \$ \_\_\_\_\_

**TOTAL \$**



U.S. funds only! Credit card, check, or money order only. Make payable to: .info

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY/STATE/ZIP \_\_\_\_\_

☐ NEW ☐ RENEWAL (Attach your .info mailing label)

VISA \_\_\_\_\_ Mastercard \_\_\_\_\_ expiration date \_\_\_\_\_

Signature: \_\_\_\_\_ Card # \_\_\_\_\_

**ORDER NOW BY**



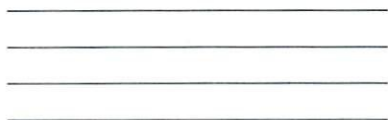
**PHONE!**  
with



**VISA or MASTERCARD**

**1-800-373-0703**





Please  
Attach  
Postage  
Here



Reader Service Management Department  
PO Box 5195  
Pittsfield, MA 01203 - 5195



NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

**BUSINESS REPLY MAIL**

FIRST CLASS PERMIT NO 171 IOWA CITY, IA.

POSTAGE WILL BE PAID BY ADDRESSEE

**.info** Subscriptions  
705 Highway 1 West  
Iowa City, IA 52246 - 4221  
USA





# A whole new look! A whole new way to play!

## SHADOW SORCERER

AN ANIMATED  
FANTASY ADVENTURE

**S**HADOW SORCERER combines elements of role-playing with strategy, exploration and animated action. It's an exciting new way to play computer AD&D® fantasy gaming!

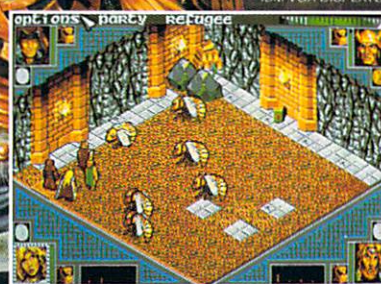
**Control four characters at the same time — even during fully-animated real-time combat! All in 3-D isometric perspective!**

Select your party from 16 different heroes, each with pre-made attributes. You've got nothing but trouble ahead: hundreds of refugees who desperately need your help to find safe haven. Strange monsters that inhabit the vast wilderness, caverns and dungeons. An army of Draconians led by a red dragon!

When the spells and weapons start flying, you'll love the simple "point-and-click" interface!

Advanced  
Dungeons & Dragons®  
COMPUTER PRODUCT

IBM VGA DISPLAYS



Control four characters at once even during real-time combat!



Play in the DRAGONLANCE® game world — in 3-D isometric view!



One of the many colorful characters who can help you on your quest.

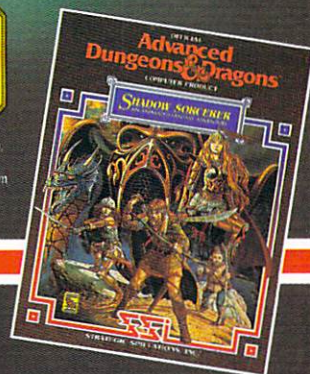
**SHADOW SORCERER.**  
**It's a whole new experience in fantasy gaming!**

TO ORDER BY VISA/MC: call  
1-800-245-4525 (in USA & Canada).

To receive SSI's complete product catalog, send \$1.00 to: SSI, 675 Almanor Avenue, Suite 201, Sunnyvale, CA 94086.



ADVANCED DUNGEONS & DRAGONS, AD&D, DRAGONLANCE and the TSR logo are trademarks owned by and used under license from TSR, Inc. ©1991 TSR, Inc. ©1991 Strategic Simulations, Inc. All rights reserved.



IBM  
AMIGA

Clue Book  
available!



STRATEGIC SIMULATIONS, INC.®



We can't show you the power and quality of the Video Toaster in this magazine ad, so we've decided to prove it with a free VHS tape about the Toaster produced *entirely with the Toaster*. This unique demo-within-a-demo starring NewTek's Kiki Stockhammer is aptly-titled **"REVOLUTION"**. It will show you why the Video Toaster is the most successful and important product ever created for the Amiga.

Every \$1595 Video Toaster comes complete with:

- Broadcast-Quality Four Input Switcher
- Real-Time Digital Video Effects
- 35 ns Character Generator
- 16.8 Million Color Paint System
- Interactive Color Processor
- Two 16.8 Million Color Frame Buffers
- 16.8 Million Color Frame Grabber
- Overlay Genlock
- Luminance Keyer
- 3D Modeling, Rendering and Animation

Whether you're doing graphics, animation, video production, or multimedia, the Toaster delivers stunning quality at a breakthrough price. Find out why everyone from *Time* and *USA Today* to *Business Week* and *Rolling Stone* are raving about the Toaster. Witness the **"REVOLUTION"** in your own home or office for free. Featuring the Toaster's mind-blowing effects, titles, and graphics along with animation by Todd Rundgren and 3D artist/LightWave programmer Allen Hastings, like the Toaster itself, this videotape will knock your socks off.

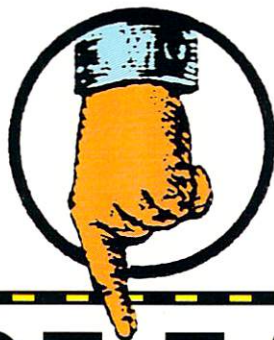
**Also includes: Todd Rundgren's Toaster-Produced Music Video "Change Myself"**

# FREE

# VIDEO TOASTER



# DEMO TAPE!



# 800-765-3406

**NewTek**  
INCORPORATED

NOTE: Anyone who previously ordered "REVOLUTION" will be receiving their tape for free. Video Toaster and LightWave 3D are a trademarks of NewTek, Inc. © Newtek, Inc. 1991

Circle #130 on the Reader Service Card